Delaware Medical Journal

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Official Publication of The Medical Society of Delaware

FEBRUARY, 1961 . . .

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CONTENTS

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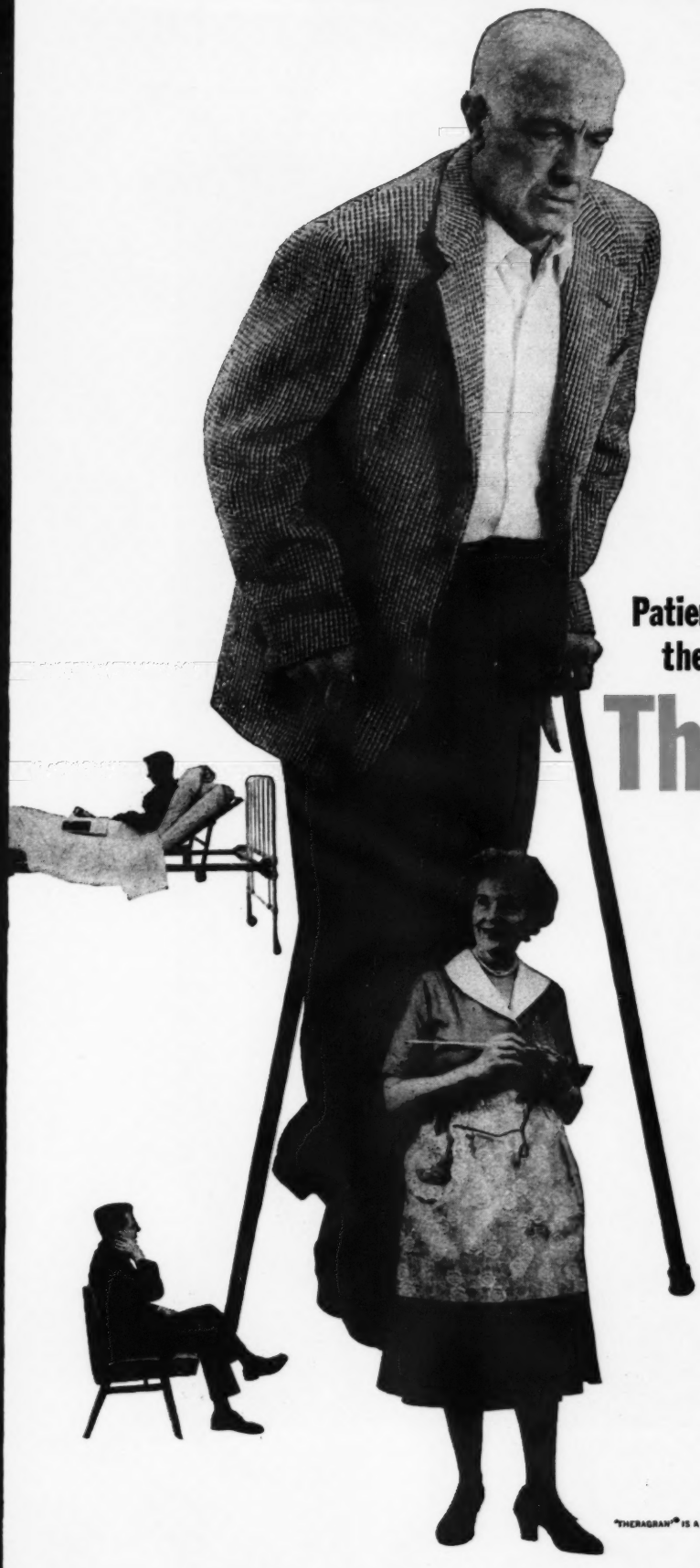

in infectious disease[17,22,30,36]
in arthritis[18,19,20,29]
in hepatic disease[2,3,4,5,38]
in malabsorption syndrome[1,2,6,27]
in degenerative disease[6,7,19,20,40]
in cardiac disease[23,28,29,38,41]
in dermatitis[24,39]
in peptic ulcer[8,21,38]
in neuroses & psychiatric disorders[25,26]
in diabetes mellitus[31,32,33,38]
in alcoholism[9,11,35,37,38]
in ulcerative colitis[10,14,16]
in osteoporosis[13,19,20]
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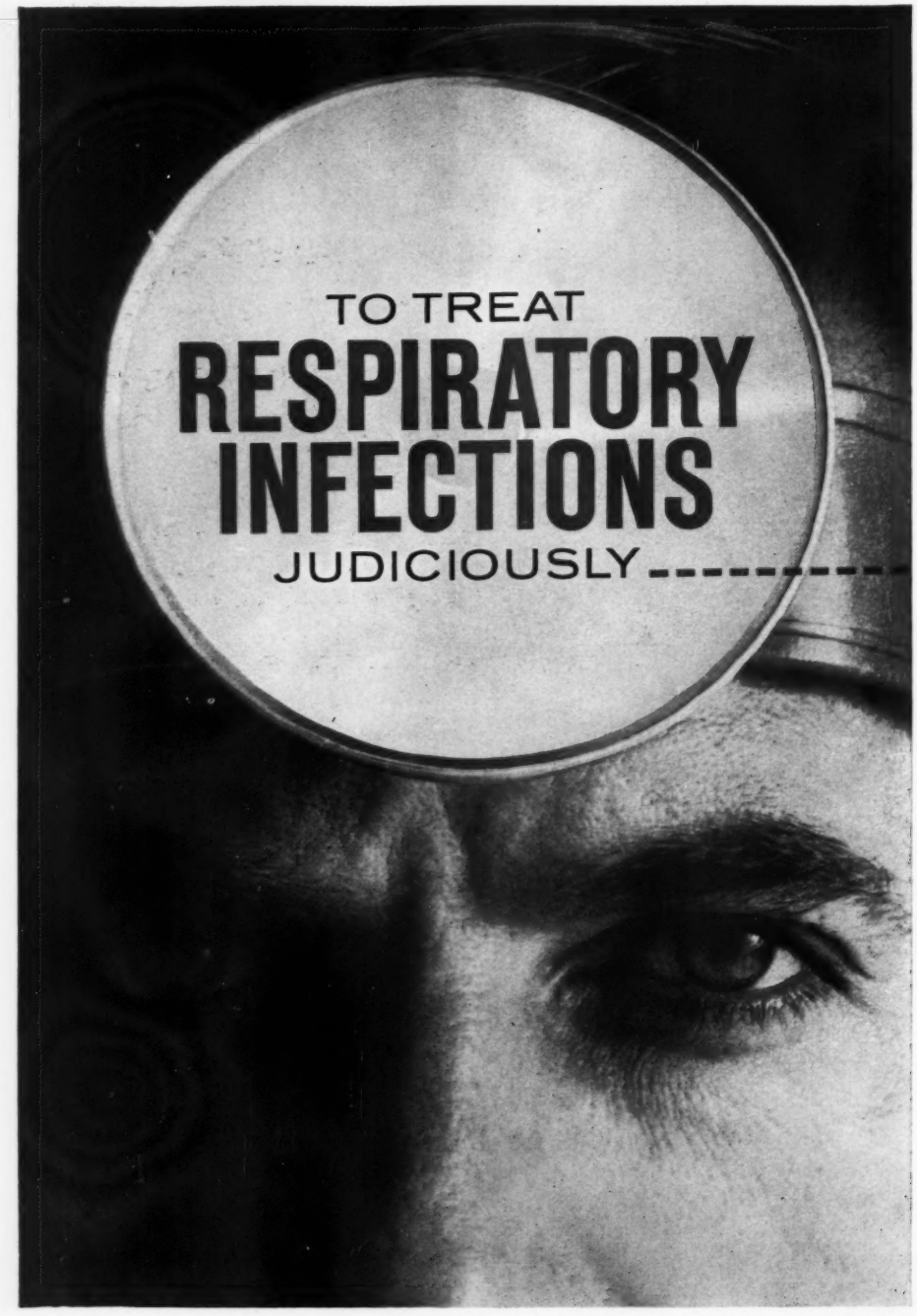
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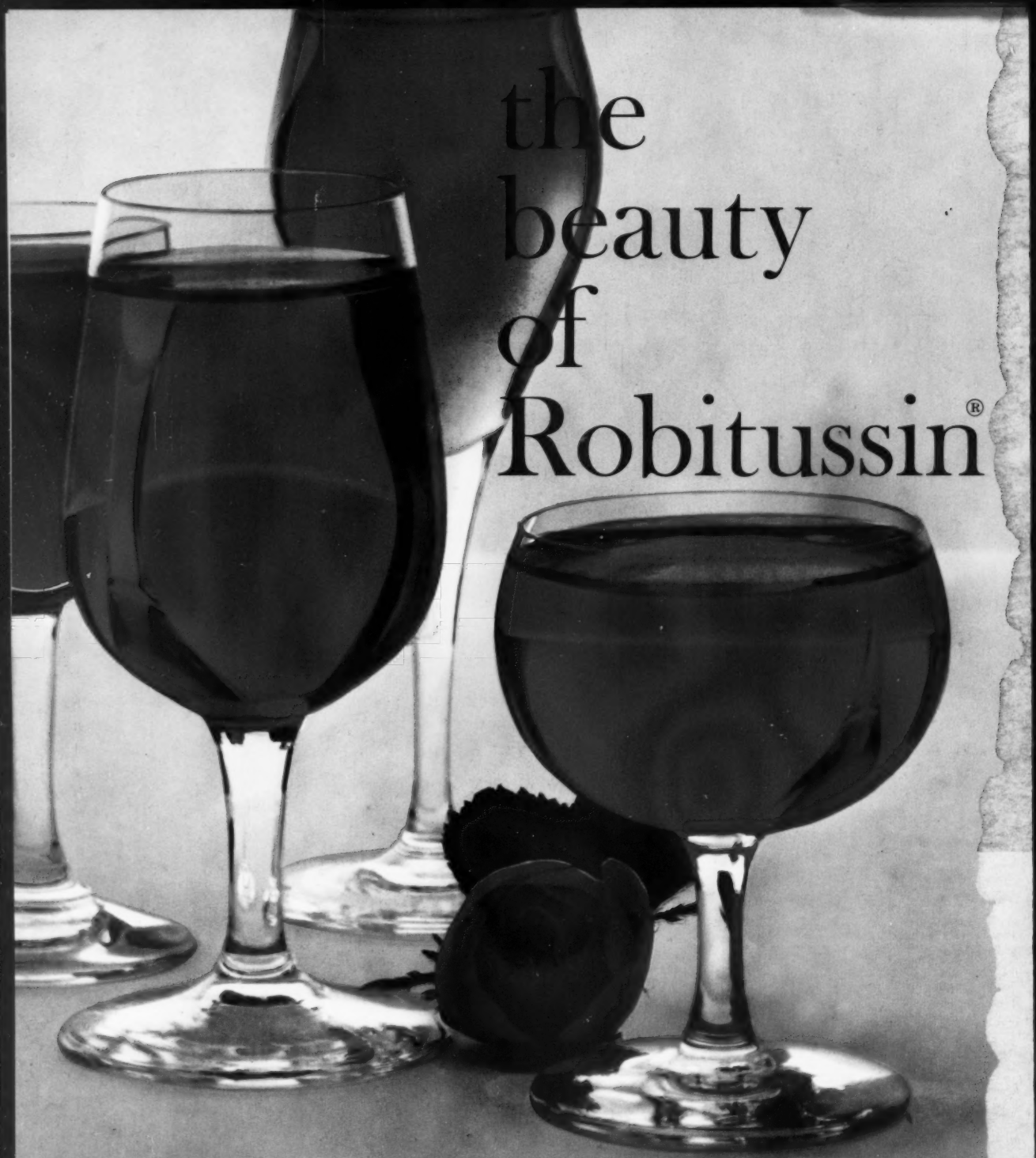

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*Council on Drugs, J.A.M.A. 165:58 (Sept. 7) 1957.

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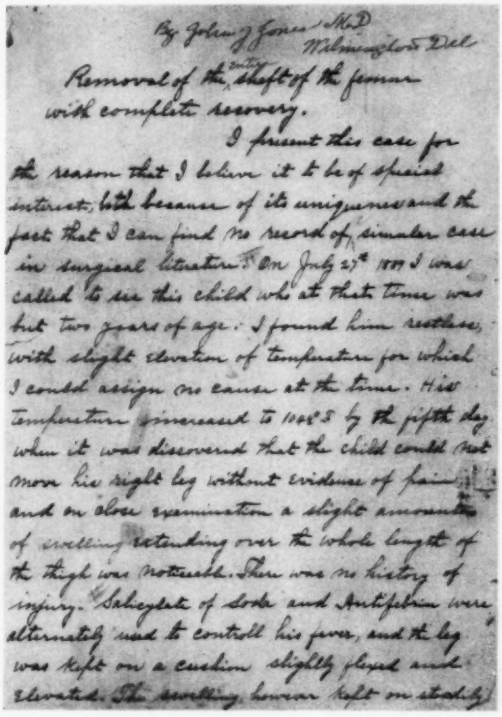
Delaware Medical Journal



By John J. Jones, M.D.
Wilmington, Del.

Removal of the entire shaft of the femur with complete recovery.

I present this case for the reason that I believe it to be of special interest, both because of its uniqueness and the fact that I can find no record of similar case in surgical literature. On July 27th 1889 I was called to see this child who at that time was but two years of age. I found him restless, with slight elevation of temperature for which I could assign no cause at the time. His temperature increased to 104°F by the fifth day when it was discovered that the child could not move his right leg without evidence of pain and on close examination a slight amount of swelling extending over the whole length of the thigh was noticeable. There was no history of injury. Salicylate of soda and Antifebrin were alternately used to controll his fever, and the leg was kept on a cushion slightly flexed and elevated. The swelling however kept on steadily

It is always an honor when a member of our Society has an article published in a national medical journal such as *Surgery*. Dr. John J. Jones of Wilmington, father of Dr. Lawrence J. Jones operated upon a small child in 1889. In September, 1960, 49 years after the death of the patient and 30 years after Dr. Jones' death, this article, of which a fascimile of the first manuscript page appears above, was published in *Surgery*, which stated with other remarks:

> Without benefits of radiographs, antibiotics, or transfusions, but with the physician's fine regard for sound physiologic principles, successful regeneration of the femur occurred, as shown by the autopsy specimen recovered 22 years after the operation when the patient died by drowning.

SYSTEMIC LUPUS ERYTHEMATOSUS

Complicated by

Avascular Necrosis of the Hip Medical and

HERBERT M. BAGANZ, M.D.*

WALTER L. BAILEY, M.D.**

Systemic lupus erythematosus is a connective tissue disorder with many manifestations and a variable course. The disease, with the present diagnostic and therapeutic measures, is more likely now than previously to be a chronic disease, and new manifestations are appearing. Avascular necrosis of the femoral head is a new manifestation, having not been observed in the many large series of cases reported prior to that of DuBois and Cozen[1] both of whom reported eleven patients as showing avascular changes in the femoral head in a series of four hundred cases of systemic lupus erythematosus. Avascular necrosis does not appear to be associated with steroid therapy, but is a late manifestation of the vascular changes accompanying this disease.

A CASE REPORT

A forty-year-old white woman was seen in January, 1955 complaining of sore throat, fever, and a skin rash of two weeks' duration. These symptoms had been preceded by increased nervousness and arthralgia since the previous spring. The clinical findings suggested an early rheumatoid arthritis that improved with the use of salicylates. The sore throat and malaise were originally thought to represent an upper respiratory infection, and penicillin was administered. The patient became acutely ill with the appearance of a rosaceous type rash on the face, daily temperature spikes to 104.6 degrees, and a profuse bloody nasal discharge marked by oral ulcerations associated with a coliform bacillus on throat culture. She was admitted to Delaware Hospital and received upon admission 40 units of ACTH by slow intravenous drip, cortisone—75 mgms.—orally every six hours, and tetracycline. Rapid clinical improvement followed. Medication was decreased to hydrocortisone, 40 mgm.

*Associate, Department of Medicine, Delaware Hospital.
**Chief, Department of Orthopedic Surgery, Delaware Hospital.

Surgical Management

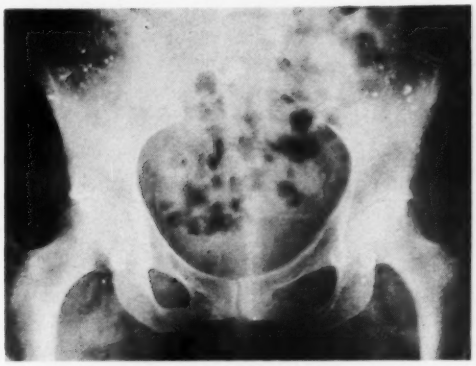


FIGURE I

● Avascular necrosis of the femoral head is occurring with the increased frequency and duration of systemic lupus erythematosis. Prosthetic replacement of the hip is an effective treatment.

orally every eight hours on the twenty-fourth hospital day, and prednisone (Meticorten), 10 mgms. every eight hours on the thirty-fourth hospital day. A productive cough and fever developed at the end of the first month. X-ray examination revealed a pneumonitis involving the right upper lobe of the lung. Sputum culture showed a growth of B. pyocyaneus. One week's therapy with polymyxin B was effective in reversing the pathology. A pericardial friction was heard during most of the initial illness.

The blood count initially was 1,900 white blood cells per cu, mm. with 64% segmented polys, 2% bands, and 34% lymphocytes; hemoglobin was 11.7 grams % and red blood cells 3,900,000 per cu. mm. Other laboratory data were: platelets (venous) 43,000 per cu. mm.; serology: VDRL reactive; Kolmer anticomplimentary; Kahn nonreactive; fibrile agglutinins negative; many L.E. cells on L.E. preparation; urine: cloudy; specific gravity 1.012; albumin, a trace; sugar negative; 0-2 red blood cells and 3-5 white blood cells per high-power field and occasionally finely granular casts; total serum protein 6.5 grams % with 2.4 grams % albumin and 4.1 grams % globulin; blood urea nitrogen 17 mgms. %; spinal fluid 2 cells per cu. mm.; 19.5 mgms. % protein, negative Wasserman, and a flat colloidal gold curve; electrocardiogram with a sinus tachycardia and a slight ST-T segment and T. wave abnormalities; and bone marrow inadequate for evaluation.

Two months following admission she was discharged on a maintenance therapy. It was necessary to readmit her two months later because of an acute exacerbation of the disease with fever, cough, arthralgia, and pericarditis. Urinalysis revealed 2+ to 3+ albumin with 50-60 red blood cells and 6-8 white blood cells per high-power field and a few granular casts. The blood

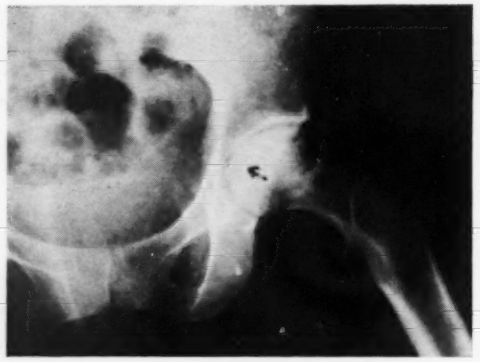


FIGURE II

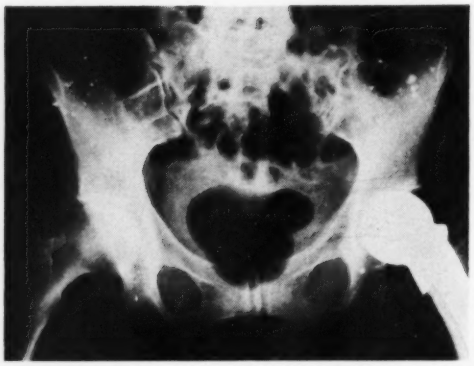


FIGURE III

urea nitrogen rose from 33 mgms. % to 75 mgms. %. Marked anemia developed as well as cardiac failure. Steroid therapy was increased requiring finally a maximum dosage of 80 units of ACTH and 40 mgms. of prednisone per day. She was discharged on a maintenance dose of ACTHar-Gel, 10 units per day, and prednisone, 5 mgms. twice a day.

Anemia requiring blood transfusions continued during the next three years. The anemia also improved with a D. and C. in 1958 and a hysterectomy in 1959. In spite of a continued 4+ albuminuria and hypertension, the blood urea nitrogen returned to normal at 13 mgms. % by October 1956. In September 1959 she developed disability in the left hip region. Despite salicylates, restricted weight bearing, and increased steriod therapy, her complaints increased in severity. X-ray examination (fig. 1-2) revealed a moderately far advanced avascular necrotic process involving the left hip joint.

A prosthetic replacement of the femoral head was suggested, the patient having previously survived major surgery without difficulty. On July 17, 1960, nine months after the onset of her hip joint difficulty, the femoral head and a portion of the femoral neck were excised and replaced by a Fred Thompson-type prosthesis (fig. 3).

Gross findings at operation revealed that the cartilaginous cap of the femoral head was practically detached from the femoral head itself, and a circular defect noted in the acetabulum filled by a granulation-type tissue.

Postoperatively her course was uneventful and soft tissue healing was excellent. Microscopic sections reviewed by the Department of Pathology were reported as being compatible with an ischemic necrosis of the head of the femur.

She was discharged from the hospital on August 8, 1960, ambulatory on crutches with partial weight bearing and minimal discomfort. Her activities have increased as has her weight bearing, and when last examined in November, 1960, she had an excellent and painless range of motion in her left hip joint.

Preoperatively this patient received 50 mgms. of hydrocortisone intravenously and postoperatively the same. The day following operation 30 mgms. of prednisone were given, and thereafter she was returned to her maintenance dose of 20mgms. of prednisone daily. Following discharge she has been kept comfortable by the use of Empirin® and Calurin® occasionally, and has continued with prednisone on a maintenance dose of 15 mgms. per day, and Plaquenil® 200 mgms. per day.

DISCUSSION

Collagen tissue is composed of collagen fibrils and a ground substance which serves

as the binding framework in the synovial and serous membranes, the endocardium, and the walls of the blood vessels. The term "collagen disease" was coined by Klemperer[2] in 1942 and includes systemic lupus erythematosus (S.L.E.). He described the basic change occuring in the intracellular components of connective tissue as "fibrinoid degeneration."

The blood vessels are prominently involved in S.L.E., especially the smaller arteries and arterioles.[3] There is a widespread vasculitis with pathologic changes in the connective tissue occuring as either necrosis or fibrinoid degeneration with cellular proliferation and infiltration and tissue sclerosis if the injury is less intense. Collagen degeneration may lead to conspicuous alterations in the walls and lumens of blood vessels.[4]

Lowman[5] examined synovial tissues pathologically in five patients with S.L.E coming to autopsy and noted the vascular changes were identical with the pattern of reaction seen elsewhere. Cruickshank[6] in a review of the pathology of the joint and tendon lesions in S.L.E. found that the deposition of fibrin-like material on the surface of synovial tissues was associated with a loss of synovial cells and absence of rheumatoid granulomas and differentiated this disease from rheumatoid arthritis. He did not note avascular necrosis.

The discovery of the lupus erythematosus (L.E.) cell by Hargraves[7] in 1948 followed the dramatic therapeutic effects brought about by the adreno-cortical steroid therapy has altered our concept of S.L.E. in recent years. The disease is being diagnosed more frequently, and patients are living longer with the condition. DuBois[8] has placed the incidence as one-half that of acute rheumatic fever at the Los Angeles County General Hospital. In Delaware Hospital in the past four years there have been twenty-seven cases of S.L.E. and sixty-three cases of acute rheumatic fever.

As mentioned previously, avascular necrosis of the femoral head is becoming more of a problem with the increased longevity afforded by more effective therapy. Avascular necrosis of the femoral head occurs secondary to a number of conditions, and is thought to be the result of interference with circulation to the head of the femur. It is most commonly seen following fractures of the femoral neck even when successful union occurs.[9]

In the surgical management of this individual, stabilization procedures, such as hip fusion with its attendant prolonged postoperative immobilization, were obviously contra-indicated. A series of forty-eight patients[10] in whom a prosthetic replacement of the femoral head for avascular necrosis of the hip was used have had uniformly satisfactory results, particularly in the relief of pain. Hence, its selection in this case.

Summary

A case of systemic lupus erythematosus with extensive multiple system involvement after five years of illness including avascular necrosis of the femoral head has been presented. It is speculated that this necrosis is due to the dyscollagenosis and vasculitis of the terminal blood vessels to the femoral head and is most likely the consequence of the disease and not the therapy. Prosthetic replacement of the diseased femoral head is recommended as one method of treatment for this particular complication of systemic lupus erythematosus.

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GASTRO-INTESTINAL DUPLICATION

CASE REPORT OF FATAL COMPLICATION IN A CHILD

MARVIN SHUSTER, M.D.*
WILLIAM H. DUNCAN, M.D.**

Duplications of the gastro-intestinal tract are uncommon congenital abnormalities which frequently give rise to symptoms. They are usually segmental and may involve any portion of the alimentary tract. The most common location is along the ileum. The duplicated segment is almost always found within the mesentery parallelling the mesenteric border of the normal channel.[1] Often the duplication shares the muscle coat of the adjoining bowel. The blood supply is also mutual, necessitating removal of the adjacent normal bowel along the duplication when surgery is undertaken. "Enterogenic cysts" are simply duplications having no communication with the lumen. More commonly, the duplication communicates with the lumen of the gastro-intestinal tract and may open at any point. Thus the duplication may vent "upstream" or "downstream" relative to fecal flow. Some duplications are open at both ends and the fecal stream is directed into either of the two existing channels. Duplications opening "upstream" are often larger due to persistaltic forces distending the lumen.[2]

The lining epithelium of the duplicated segment is often important in the causation of clinical symptoms. The mucosa may resemble any portion of the gastro-intestinal tract. Frequently gastric mucosa capable of acid and enzyme production is found lining a portion or all of the duplication. Gross[3] found gastric mucosa in 17 of a series of 68 operated cases.

Duplications usually give rise to symptoms in childhood; extensively duplicated segments are often symptomatic in infancy.[4] Symptoms may be referable to distention of a cyst with secretion producing pain or compression of intestine with partial or complete obstruction. At times the duplicated portion of bowel acts as the leading portion of an intussusception giving similar symptoms. Twisting or external pressure may compromise the blood supply to the duplication and adjacent bowel. Segments lined with actively secreting gastric mucosa can engender peptic ulceration within the duplication or in the normal intestine. Chronic blood loss on this basis may explain an iron deficiency anemia. Contraction of scar tissue in ulcers may produce intestinal obstruction. Massive gastro-intestinal hemorrhage and perforation with subsequent peritonitis may occur. Diagnosis is usually accomplished at operation. Rarely a movable abdominal mass is palpable, especially when there is a non-communicating cystic duplication, and diagnosis suspicioned.

Presentation Of Case

A five year old white girl was seen in the Delaware Hospital Emergency Room at 11:15 A.M., 10 June 1960. History revealed that the child was apparently well until twenty-four hours prior to admission when she developed some fever, abdominal pain and one episode of vomiting. She was given an injection of chloramphenicol and put at bedrest. During the next twenty-four hours she failed to improve and became hyperpneic and cyanotic. Examination by the house officer on admission showed an acutely ill child who was re-

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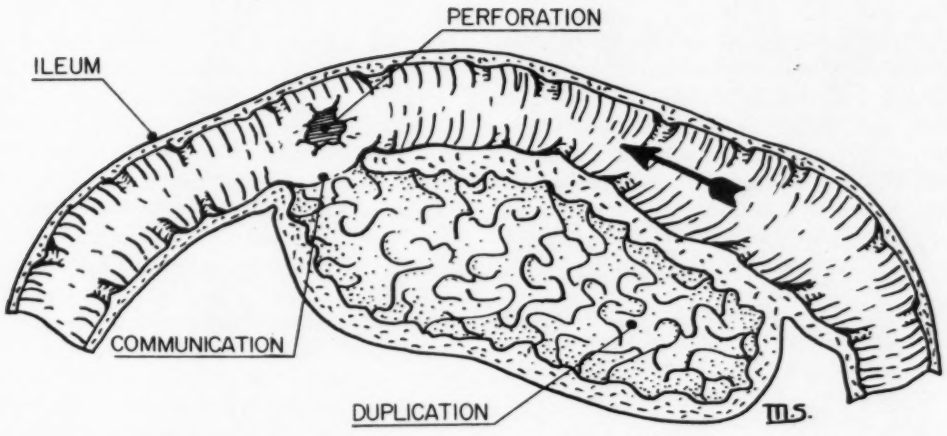

Diagrammatic section through ileum and duplicated segment showing relationship of communicating ostium, perforated ulcer and direction of fecal flow.

sponsive and alert. Rectal temperature was 103.2°F. Mild cyanosis of lips and nail beds, circumoral pallor and moist rales at the bases of both lung fields were noted. The child's only complaint was pain in the lower left anterior chest. The abdomen was soft and of doughy consistence. Hypoactive bowel sounds were heard and palpation in the area of the spleen elicited tenderness. Lobar pneumonia was suspected and she was sent for a chest roentgenogram.

She returned from the Radiology Department at approximately 11:35 A.M. At 11:45 A.M. while being helped on to a bed pan, she suddenly went into marked peripheral vascular collapse with gross increase in cyanosis, marked drop in respiratory rate, tachycardia, cold extremities, absence of pulse and blood pressure, and "splotchy color." Heroic life-saving measures were immedately instituted, including an intravenous cutdown of saline and vasopressors and endotracheal positive pressure oxygen. The "wet plate" roentgenograms showed a normal chest but air was present under the diaphragms.

By 1:00 P.M. her condition had become stable, though still critical, and she was admitted to the pediatric ward. Fifteen minutes later she again presented vascular collapse and in spite of therapy she expired at 1:19 P.M.

Review of the patient's chart indicated a prior admission in the Delaware Hospital at the age of two and one-half years for iron deficiency anemia. Marked pallor had been progressively developing since birth and she was not as active as other children her age. She was described as "listless," "irritable," and "tired." Hospital records indicate absence of epistaxis, hematuria, hematemesis and hemoptysis. "Dark, almost tarry stools" were attributed to eating of prunes for occasional constipation and some "dark pills" had been dispensed in the treatment of an upper respiratory infection. Diet was normal up to one year of age followed by a gradual decrease in appetite for the several months prior to admission. She was hospitalized for five days and treated with transfusions and an intramuscular iron preparation. Stools were examined for ova and parasites and *Enterobius vermicularis* was found. No tests for occult blood in stools had been ordered.

The blood studies on that admission showed 2.5 m. red blood cells per cubic millimeter, 4.1 gms. of hemoglobin per 100 ml. with a 14% hematocrit. The blood smear showed marked hypochromia, microcytosis and anisocytosis. Also noted was

slight polychromatophilia, occasional stippled cells and poikilocytes. The mean corpuscular volume was 56 cubic microns and mean corpuscular hemoglobin concentration was 29%. The white corpuscle count of 10,200 per cubic millimeter showed a shift-to-the-left including 9% band forms and 1% metamyelocytes. A rare nucleated red blood cell also was seen.

Physical examination at that time showed marked pallor, heart rate of 140 per minute with cardiomegaly and a grade 3 blowing harsh murmur over the precordium radiating to the back and axilla.

Autopsy Findings

The body was that of a well-nourished, well-developed five year old white girl. The lips and mucous membranes of the mouth showed marked pallor. The skin was pale and generalized livore reticularis was present. A polyethylene catheter was present in a right ankle "cut down" incision. The abdomen was flat and slightly tense. The peritoneal cavity contained 150 cc. of brown fluid with fecal odor and many fragments of fibrinopurulent exudate and fecal particles. Many of the loops of small intestine were matted together by the fibrinopurulent exudate and the peritoneal surfaces were markedly congested. A loop of ileum was firmly adherent in the right lower pelvis. This adherent portion of bowel was at mid-ileum and the segment showed an obvious duplication. The duplication was found within the mesentery, proximal to the main channel of the ileum and parallel with it (see Fig.). This ovoid structure measured 15.0 cm. in length and was 3.5 cm. in average diameter. The normal channel at this point was 1.8 cm. in diameter. There was a large communicating orifice 1.5 cm. in diameter entering the ileum on the "downstream" aspect. Directly opposite this communicating opening on the free, or anti-mesenteric, border of the ileum was a perforation or rupture measuring 1.0 cm. in diameter through which feces appeared on pressure of the bowel. The margins of the perforation were firm and irregular. The mucosal surface of the ileum showed slight congestion but no other abnormality. On opening the duplication, the mucosa was markedly pebbly and had the appearance of hypertrophic gastric mucosa. The gross impression was that the duplication was lined by gastric mucosa and perforation of the ileum represented a perforated peptic ulcer. This gross diagnosis was further strengthened by the location of the perforation immediately adjacent to the communication of the duplicated segment with the ileum. There was also partial malrotation of the colon, the cecum being found in the right upper quadrant. All other organs were grossly normal.

Microscopic

The ileum and other portions of the intestine showed a diffuse acute fibrinopurulent peritonitis. Sections through the area of perforation in the ileum showed both acute and chronic inflammatory change with evidence of scar formation. The appearance was consistent with a chronic peptic-type ulceration. Sections of the duplication showed a thick muscular wall shared by the duplication and the ileum. The mucosa was of great interest, being quite thick and having the appearance of typical gastric mucosa with deep glands containing numerous chief and parietal cells and a mucus secreting goblet-cell lining on the lumenal surface.

Summary

A case of duplication of the ileum in a five year old girl is presented. The gastric mucosa lining the duplication was felt to be responsible for peptic ulceration of the adjacent ileum with subsequent perforation and death following diffuse peritonitis. In retrospect, a previous hospital admission at age 2½ years for iron deficiency anemia was attributed to chronic blood loss from this ulcer.

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● **Radiation therapy for neoplastic disease in a patient with total albinism has not been previously reported. It prompted this case report of cancer of the uterine cervix.**

RADIATION THERAPY FOR CANCER OF THE UTERINE CERVIX In a Patient with Total Albinism

OSCAR N. STERN, M.D.*

JOHN M. LEVINSON, M.D.**

Carcinoma of the cervix is one of the most common malignant diseases treated with radiation therapy. The occurrence of this disease in a total albino has not been reported heretofore and for this reason it was felt of interest to report radiation therapy in this situation. Total albinism (albinismus totalis) is characterized by absence of pigment in the skin, hair, eyebrows, eyelashes and the eyes. The incidence varies 1.7 per cent in the San Bals Indians of Darien to one in 20,000 in Great Britain and one in 100,000 in France and Russia.[1] It is somewhat more frequent in males, indicating partial sexual linkage. Additional features of this inborn error of metabolism are refractive anomalies, strabismus, nystagmus and photophobia.

The absence of pigment in albinism is due to a failure to form the dark brown or black melanin pigment from tyrosine. Unusual sensitivity to sunlight is common knowledge with this disorder, and the authors were concerned about similar or more severe reactions from radiation therapy.

Case Report

Admitted to the gynecologic tumor service, Delaware Hospital, June 12, 1957, was a thirty-nine year old patient gravida V para V who had had menometrorrhagia and postcoital bleeding for five months. On examination she met all the above criteria of total albinism. She was suffering from an acute urinary tract infection and also was found to have a stage IIA International Classification carcinoma of the uterine cervix. The biopsy taken at this time was reported as epidermoid carcinoma grade II to grade III. A complete tumor diagnostic survey was undertaken and found to be within normal limits, with the exception of a hemoglobin which was 9.5 gm. and a hematocrit of 33 per cent. Additionally, the patient had an abnormal urinalysis indicating an acute urinary tract infection.

The acute urinary infection was rapidly sterilized with appropriate antibiotic therapy. On June 16, 1957, under anesthesia the cervical canal was gently dilated and specimens were taken for biopsy. Radiation therapy was instituted using an Ernst applicator containing 90 mg. of radium.* This was applied for a period of 3,000 mg. hours. AP and lateral X-rays demonstrated good position. The patient was given 500 cc. of blood and a hematocrit two days following this was 36 per cent.

The patient was treated again on the twelfth of July, 1957 with a similar loading

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*30 mg. each in the lateral arms and 30 mg. in the central stem in the classical loading fashion.

of radium for 3,000 mg. hours. No untoward effects were noted.

Since no information could be found in the literature and by personal communication[2] on the effects of deep radiation therapy in an albino, it was decided to send the patient to have rotating cobalt bomb therapy. This we had reasoned would give less skin damage while trying to sufficiently radiate the pelvic tumor. Because of the patient's refusal to have this done, she was treated at the Delaware Hospital with a 250 K.V. deep therapy machine. The therapy was given with a beam of a H.V.L. of 3 mm Cu. During September, 1957, she received a skin dose of 2,900 roentgens through four 12 by 10 cm. pelvic portals. This yielded a pelvic mid plane dose of 2,300 roentgens in four weeks. The skin doses quoted include both entrance and exit doses and produced a faint erythema only.

Three months following the completion of this treatment, the patient was referred back for further therapy and at that time received over the anterior and posterior pelvis a skin dose of 1,500 roentgens. There was no note of any skin reaction from this second course of therapy.

The patient refused any further active therapy and symptomatic therapy was given until her death on March 28, 1958. At post-mortem examination there was wide spread metastatic disease in the abdomen. The liver, kidneys, bladder, G.I. tract, as well as pelvic lymph nodes, were all involved. In addition there was a massive retroperitoneal extension of the malignancy. Grossly the skin over the areas of radiation therapy showed no alterations from that of the rest of the body.

Discussion

Several possibilities for the lack of any unusual affect from radiation should be considered. The first is that maximum radiation responses are noted in the presence of a maximum blood count. This patient's average hemoglobin was approximately 10 grams. (Due to her rather rapid disease, in spite of blood transfusions, she could not be kept in good hematologic status.) Secondly, the patient did not receive what we feel was an optimum amount of X-ray radiation for this type of disease, and certainly not the amount which normal skin may tolerate.

Summary

A case of carcinoma of the uterine cervix occurring in an albino and treated by radiation therapy without unusual side effects has been reported. Upon reviewing the existing medical literature, and on personal communication, we have been unable to uncover any cases of total albinism in which malignant tumors were treated by radiation therapy. Because of this reason, it has been felt worth reporting this case.

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Contributors

Frank S. Hassler, M.D., University of Maryland, '43, interned at Delaware Hospital. Following war time service in the Army, Dr. Hassler served a 10 year preceptership in OB-GYN at the Delaware Hospital with S. W. Rennie, M.D. Since 1956, Dr. Hassler has been chairman of the Committee on Maternal and Infant Mortality, Medical Society of Delaware.

Gerald A. Beatty, M.D., director of the Chest Clinic, Delaware Hospital and president of the Delaware Tuberculosis and Health Society is Governor for Delaware of the American College of Chest Physicians.

William H. Duncan, M.D., Temple University School of Medicine, '59, is a native of New Castle and interned at Delaware Hospital. Dr. Duncan is a graduate of West Point, '52 and served three years on active duty as an airborn infantry officer, being honorably discharged in 1955.

● **The author points out that fibrosis more than the disease itself is the real culprit causing pulmonary emphysema, bronchiectasis, right heart strain and cor pulmonale.**

PULMONARY FIBROSIS

GERALD A. BEATTY, M.D.*

The spector of pulmonary fibrosis looms large in the area of chest disease. It follows many chronic pulmonary infections such as tuberculosis, bronchiectasis, and lung abscess. It follows acute infections such as streptococcal and staphylococcal pneumonias, complicating acute infectious disease such as measles and pertussis. Infections which produce severe necrotizing effects on the lung parenchyma, such as Klebsiella, are followed by marked fibrosis among the survivors, though pneumococcic pnuemonias without complications rarely produce fibrosis. It occurs in the pneumoconioses most markedly; it is seen in granulomatous lung disease (Boeck's sarcoid) and in the collagen diseases which affect the lung such as scleroderma.

Fibrosis of the lung may be distributed in five different patterns namely, 1) bronchial, 2) interstitial, 3) parenchymal, 4) vascular, and 5) pleural. The types of fibrosis observed obviously depend on the etiologic agent and the associated disease processes that produce fibrosis.

In the bronchial pattern, which may be secondary to a number of diseases, the most outstanding sequela is obstructive emphysema. Very often in diffuse obstructive emphysema there is minimal fibrosis in the alveolar walls. In contrast to the fibrotic changes around the bronchial tree, the alveolar walls reveal a relatively normal structure.

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The second pattern is that which occurs in interstitial tissues of the alveolar walls. This produces primarily a disturbance of diffusion of gases across the alveolar capillary membranes. One of the classical conditions in which this type of fiibrosis occurs has been called diffuse interstitial fibrosis of the lungs, or the Haman Rich syndrome. In many other conditions the fibrosis is also predominantly in the interstitial tissues. Among these are scleroderma, beryllium poisoning, and bauxite pnuemoconiosis This type of fibrosis not only causes a respiratory type of disturbance, but it also increases the viscosity of the structural framework of the lung and thereby contributes to a ventilatory type of disturbance as well.

The third pattern is parenchymal or intra-alveolar. This is a common form and is often secondary to organization of any suppurative pneumonia, Klebsiella, lipoid, and radiation pneumonitis.

Fibrosis or sclerosis of the pulmonary vascular bed is the fourth pattern, and is seen in such entities as organization of multiple arterial emboli or thrombi.

The fifth form of fibrosis is that related to the pleura. This may result from organization of the exudate which develops secondary to acute or chronc pyogenic empyema, tuberculous empyema, or traumatic hemothorax. The exudate or blood present in these conditions becomes organized and a fibrotic pleural envelope develops which contracts and constricts the

underlying lung parenchyma. This eventually interferes with both ventilatory capacity of the lungs, and also with the flow of blood to the underlying involved area. A secondary effect is the development of distention emphysema in the uninvolved areas and/or the contra-lateral lung. Sometimes in an extensive and long-standing pleural involvement the fibrous tissue may extend along the interlobular septa and into the lung parenchyma. This has the additional effect of dimishing the elasticity of the lung and hence further compromises ventilation.

With the development of the surgical procedure whereby these fibrotic pleural envelopes may be removed and the lung re-expanded, it has become increasingly important to determine the amount of return to normal function that may occur after re-expansion of a long-standing compressed lung. Complete restoration of function may not occur despite complete anatomic re-expansion. This suggests that there is an associated underlying parenchymal change.

Thus we find that the effects of fibrosis vary with the location of the fibrosis. The effects may be entirely ventilatory, entirely respiratory, or generally, a combination of both. But it has a characteristic pattern according to its etiology. This is of great importance in evaluating the pulmonary functon tests. A good example of this would be the "alveolar capillary block" in sarcoidosis, where the ventilatory tests would be, or approach normal, while the respiratory tests would be markedly abnormal.

Wit hthe advent of antibiotic therapy it has been observed by many that with such drugs as streptomycin, P.A.S., and I.N.H. in the treatment of tuberculosis, penicillin and the broad spectrum antibiotic therapy in acute pulmonary infections, the healing process is accompanied by much less deposition of fibrous tissue. This results in fewer complications of fibrosis such as emphysema and bronchiectasis.

Open healing of cavities with epithelization is now frequently seen. Because of less dense fibrosis in healing, it is felt that there will be fewer old age reactivations of tuberculosis, since the dense scars shelter tubercle bacilli in a viable state for long periods of time. The decrease in recent years in the incidence of new cases of bronchiectasis is most likely attributable to early and effective chemotherapy of the suppurative pneumonias which complicate pertussis, measles, etc. This has limited the degree of bronchial wall necrosis and fibrosis does not occur in replacement. This development attests to the importance of suppurative necrotizing pneumonia as a leading factor in the development of bronchiectasis.

With the development of pulmonary fibrosis and its inevitable complications, the stage is then set for the most important components of chronic pulmonary disease, its effect on the heart. It produces increased tension in the pulmonary artery and right ventricle; with ultimate hypertrophy of the right heart, which leads to cor pulmonale. This is recognized on the basis of the following criteria:

1) The existence of chronic lung disease
2) The absence of any other cardiac disease
3) The development of an increase in the dyspnea and cyanosis already present
4) The appearance of orthopnea
5) Hypertrophic pulmonary osteoarthropathy
6) Accentuation of P^2
7) Cardiac enlargement
8) EKG evidence of right ventricular hypertrophy

There are very many etiologic agents responsible for pulmonary disease.

It is to a large extent the healing process itself, however, which accounts for most, if not all of the sequelae including chronic pulmonary disease with eventual -right heart strain and cor pulmonale.

MATERNAL MORTALITY†

● **Since 1916 the State of Delaware has kept accurate statistics on maternal deaths. The present report explains the function of the State Medical Society Committee on Maternal Mortality and its methods of collecting data.**

JOHN M. LEVINSON, M.D.*
CHARLES R. GREEN, JR., M.D.**
FRANK S. HASSLER, M.D.**

Many reports concerning maternal mortality over the past fifty years are contained in the literature. The present paper is a resume of the maternal mortality in the State of Delaware from 1916 through 1959, with a brief history of the collation of statistics, methods of collection, results as shown and recommendations as to future statistical compilations for this particular state.

Delaware is fortunate in its geographic location, profiting from the influence of several schools of medicine within a sixty mile radius. Through this influence, a state-wide program of vital statistics was begun in 1916 concerning maternal and infant mortality. This has been the basis for the collection of statistics since that time.

The next step was the establishment on October 11, 1937, by the Delaware State Medical Society's House of Delegates of a "Special Committee on Maternal and Neonatal mortality." The provocation for establishment of this group was the large percentage of rural population and hence, home deliveries by midwives, and it was felt that such a committee would be of help in provoking legislation to regulate the the number and practice of midwives doing deliveries. The original format regarding statistical compilation was derived from an outline kindly supplied by Dr. Phillip Williams of Philadelphia.

From the original committee has evolved the present committee composed of members from all counties, appointed by the president of the State Medical Society and headed by a board certified obstetrician and gynecologist. In addition, two pediatricians are committee members and the executive secretary of the Delaware State Medical Society is an ex-officio member The committee submits a report to the House of Delegates of the Medical Society yearly, which is published in the Delaware Medical Journal.

A uniform classification of obstetrical causes of death is essential to an accurate definition of the problem involved. Accordingly, the state Maternal and Neonatal Committee has studied cases as defined in the booklet "A Guide for Maternal Death Studies," published in 1957 by the American Medical Association Committee on Maternal and Child Care.[1] The term maternal death as used in the booklet is defined as follows: "the death of any woman dying of any cause whatsoever while pregnant or within ninety days of the termination of the pregnancy, irrespective of the duration of the pregnancy at the time of the termination or the method by which it was terminated."

The term "maternal death" as here defined should not be confused with the official state and national "maternal mortality"

†This paper was presented at the American College of Obstetricians and Gynecologists District III meeting at Shawnee, Pennsylvania, on October 15, 1960.

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statistics which have included only those deaths with direct obstetrical causes; that is, as a consequence of hemorrhage, toxemia, infection, vascular accidents or adverse effect of anesthetics. An indirect obstetrical cause of death is defined as a death resulting from disease before or developing during pregnancy (not a direct effect of the pregnancy) which was obviously aggravated by the physiologic effects of the pregnancy and caused the death. Although this latter classification is not used for maternal mortality statistics, it is important that they be reported to the Maternal Mortality Committee so that the complete problem can be understood, and so that avenues of preventability can be found and remedied.

Methodology

Upon submission of a maternal death to the Bureau of Vital Statistics in Dover, a report is forwarded to the chairman of the Maternal Mortality Committee. A questionnaire (Form A) is then sent to the responsible physician and almost without exception the committee has received excellent cooperation from the attending physician. The questionnaire, of course, is kept confidential and the case identified by code only. At appropriate intervals the committee meets, discusses the cases, and classifies them according to the "Guide for Maternal Death Studies." A summary of the committee's findings and recommendations is then forwarded to the attending physician if he so requests.

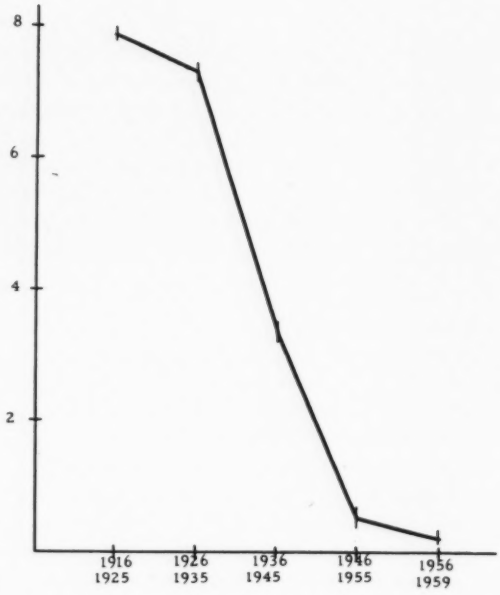
Material Mortality

Since 1916 the maternal mortality per 1000 live births has declined from 7.52 in the interval 1916-1925 to 0.35 in the last four year period, 1956-1959. These figures are as follows:

(*See Table I*)

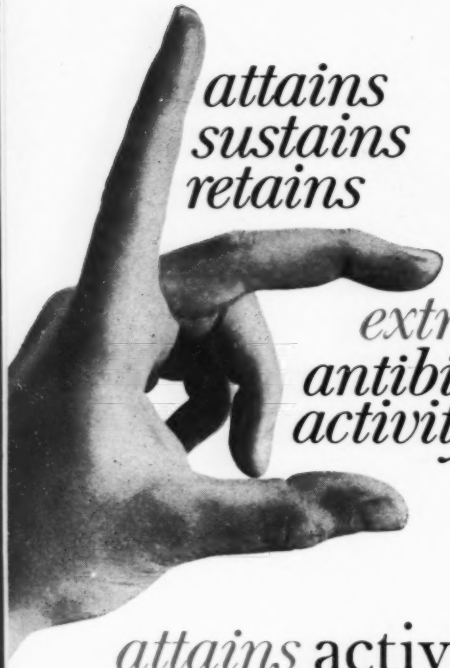
1916-1925	7.52
1926-1936	6.84
1936-1945	3.50
1946-1955	0.72
1956-1959	0.35

TABLE I



The decline as represented follows that in general reported in national and state reports in the past. Many factors are involved but one of the more important in Delaware is the pronounced shift from home to hospital delivery with its attendant blood and antibiotic availibility. In 1944, 20.5% of all deliveries occurred in the home, whereas in 1959, only 2.8% were so delivered. In line with this is an increased number of hospital beds available as illustrated (see Tables II and III), by the increasing number of deliveries by well trained individuals and a corresponding decrease in midwife deliveries. Blood banks have been established as an integral part of all general hospitals in the state thus making blood readily available for the acute obstetrical need. Prenatal care has become an established part of obstetrical care and consultation has become mandatory for complications under by-laws of many hospitals.

A complete review of the leading causes of maternal mortality demonstrates that while the total number has declined, the



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sustains
retains

extra
antibiotic
activity

DEC

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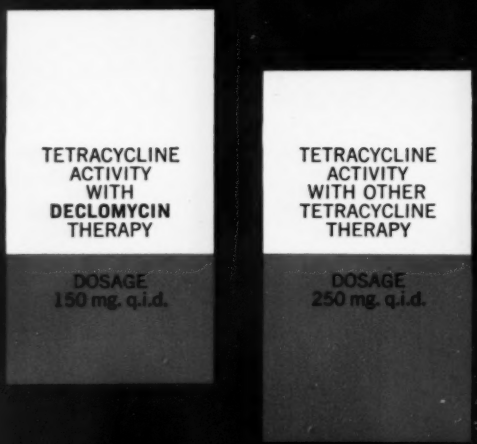
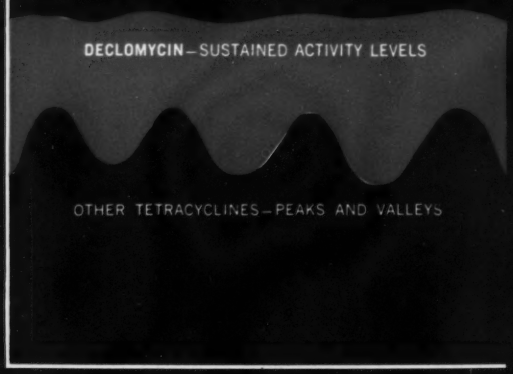
sustains activity levels evenly

DECLOMYCIN Demethylchlortetracycline sustains, through the entire therapeutic course, the high activity levels needed to control the primary infection and to check secondary infection at the original—or at another—site. This combined action is usually sustained without the pronounced hour-to-hour, dose-to-dose, peak-and-valley fluctuations which characterize other tetracyclines.



POSITIVE ANTIBACTERIAL ACTION



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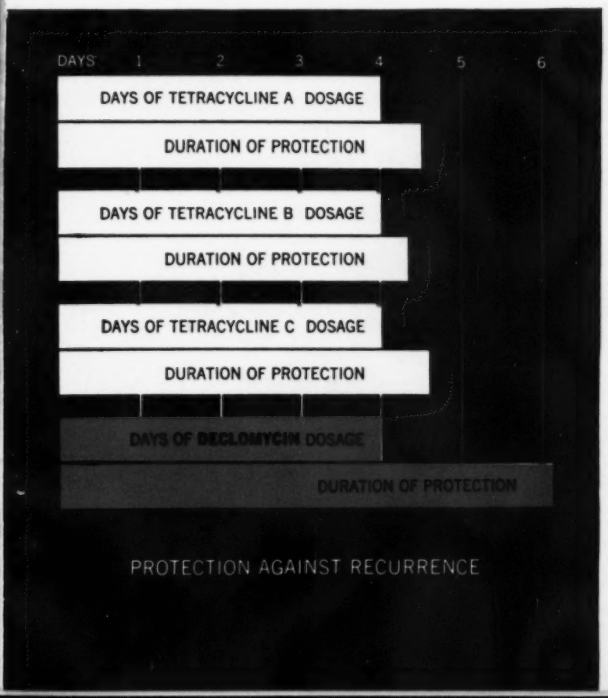
DECLOMYCIN Demethylchlortetracycline retains activity levels up to 48 hours after the last dose is given. At least a full, extra day of positive action may thus be confidently expected. The average, daily adult dosage for the average infection—1 capsule q.i.d.—is the same as with other tetracyclines...but **total** dosage is lower and duration of action is longer.



CAPSULES, 150 mg., bottles of 16 and 100. **Dosage:** Average infections—1 capsule four times daily. Severe infections—Initial dose of 2 capsules, then 1 capsule every six hours.

PEDIATRIC DROPS, 60 mg./cc. in 10 cc. bottle with calibrated, plastic dropper. **Dosage:** 1 to 2 drops (3 to 6 mg.) per pound body weight per day—divided into 4 doses.

SYRUP, 75 mg./5 cc. teaspoonful (cherry-flavored), bottles of 2 and 16 fl. oz. **Dosage:** 3 to 6 mg. per pound body weight per day—divided into 4 doses.

PRECAUTIONS—As with other antibiotics, DECLOMYCIN may occasionally give rise to glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis or dermatitis. A photodynamic reaction to sunlight has been observed in a few patients on DECLOMYCIN. Although reversible by discontinuing therapy, patients should avoid exposure to intense sunlight. If adverse reaction or idiosyncrasy occurs, discontinue medication.

Overgrowth of nonsusceptible organisms is a possibility with DECLOMYCIN, as with other antibiotics. The patient should be kept under constant observation.

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chief causes remain the same, i.e., hemorrhage, infection and toxemia. Only the last four year period is reviewed in some detail (since the format as mentioned with detailed records has been available), showing that improvement is still to be expected, and that the irreducible minimum has not been reached.

These deaths, in number 17, are listed as follows:

Hemorrhage	7
Sepsis	3
Hemorrhage and Sepsis	1
Pulmonary embolism	3
Anesthesia	2
Toxemia	1

TABLE II

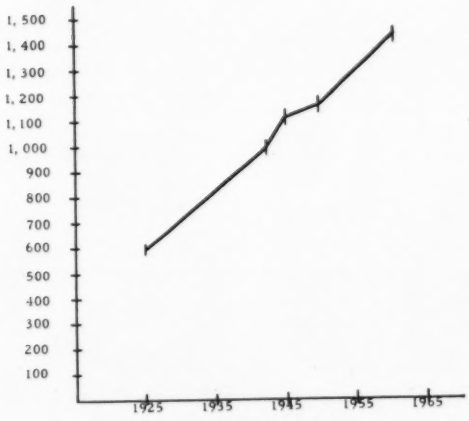
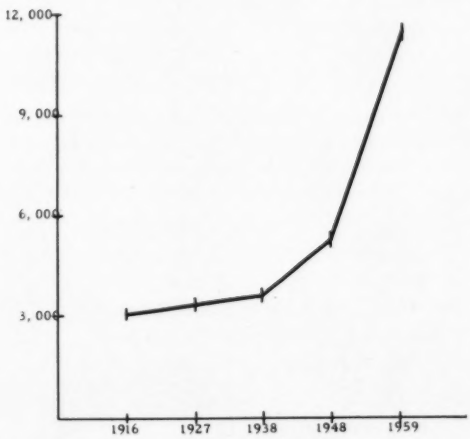


TABLE III



The hemorrhagic group has factors of preventability common to all such deaths, such as more vigorous treatment of antehemorrhagic partum anemia, increased facilities for more rapid operative intervention and greater availability of blood on an emergency basis. The three deaths due to sepsis followed criminal abortio nand patient negligence in seeking medical help was an important factor in their demise. Here perhaps, more stringent enforcement and earlier reporting of criminal abortions might serve to focus attention on this problem. The two anesthetic deaths are classified preventable and should point to better handling of the laboring patient in respect to anesthesia and the institution of prompt bronchoscopy if the indication exists. Pulmonary embolism remains as an all-too-common cause of maternal deaths and will continuel so until the minimal signs of early phlebitis are fully appreciated.

Conclusions

The following recommendations are made for the improvement in reporting of all maternal deaths and in improving maternal care itself with a corresponding lower maternal mortality.

I. Under the present method of collecting statistics some cases are missed. It is felt that a matching of all death certificates of women in the child-bearing ages with birth certificates for the current and previous year would uncover a number of these "hidden" deaths. This has been done with some success by the Minesota gorup.[2] All abortion deaths would not be uncovered but yearly letters to all pathologists and administrators of the general hospitals might bring these to light.

II. Removal of all deliveries from the home to the hospital.

III. Maintain adequate and fully staffed (24 hour) blood banks and have available an immediate supply of O-negative fresh blood on the delivery floor.

IV. The early diagnosis and adequate replacement of blood loss in hemorrhagic complications of pregnancy.

V. Twenty-four hour anesthesia coverage of all labor floors with a wider use of regional anesthesia as indicated.

VI. Continued improvement in prenatal care with vigorous treatment of the medical and surgical complications of pregnancy.

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"Form A" Questionnaire

MEDICAL SOCIETY STATE OF DELAWARE
COMMITTEE ON
MATERNAL AN INFANT MORTALITY

Date .....

Doctor .....
.....

Dear Doctor:

The above committee is reviewing and analyzing all maternal deaths occuring in the state of Delaware. In order that it might make an intelligent survey of these deaths it is necessary that it have as much information as possible.

It will greatly facilitate our work if you will complete this *confidential* form and return it to us at your earliest convenience.

Very truly yours,
Chairman
Committee on Maternal and
Infant Mortality

INFORMATION FROM
DEATH CERTIFICATE

Full name .....
Usual residence .....
Date of death ..... Hour .....
Place of death:
County .....
City or town .....
Hospital .....
Color ..... Age .....
Cause of death:
Immediate cause (a) .....
Antecedent causes (b) .....
(c) .....
Other significant conditions:
.....
.....
Signature .....
Address .....

INFORMATION FROM
BIRTH CERTIFICATE

Place of birth .....
Date of birth ..... Hour .....
Sex ..... Alive or stillborn .....
Name of father .....
Maiden name of mother .....
Number of weeks pregnancy .....
Birth weight .....
Previous pregnancies. (not including this child)
Born alive and now living .....
Born alive but not living .....
Born dead .....
Signature .....
Address .....

1. What was the history of previous pregnancies, labors and puerperiums?
2. Did you have entire care of patient during this pregnancy?
3. a) Was another physician called in consultation?
   b) Were you called in consultation?
4. At what month of pregnancy did patient first consult you or her physician?
5. How many prenatal visits did she make?
6. Was pregnancy normal at these visits? (blood pressure, urine, weight, edema bleeding etc.)
7. If pregnancy was abnormal, state in what respects.
8. Was any medical or surgical complication present such as heart disease, tuberculosis, etc.?
9. *IMPORTANT*—Please give as detailed a summary of this case as possible, including all data that will help the committee in arriving at a correct understanding of this death. This information will be enteirely *confidential.*
10. Was the autopsy performed? ..... If so, please submit pertinent findings together with, if possible, blocks of tissue or sections showing the major pathological findings noted.
11. If delivered, what was the interval between delivery and death? (days, hours or minutes)
12. In your opinion is the cause of death as stated on the death certificate (see page one) correct?
13. If incorrect, what changes do you suggest?
14. Do you wish a report sent to you of the fiindings of the committee?

Please send me a report ..... M.D.

(Signed)

(This form was adapted from the one used in Baltimore, Md., and furnished through courtesy of Louis Douglas, M.D.)

GLUCOSE TOLERANCE

of a Juvenile Diabetic's Family

● **A study of eight siblings and one parent of a juvenile diabetic.**

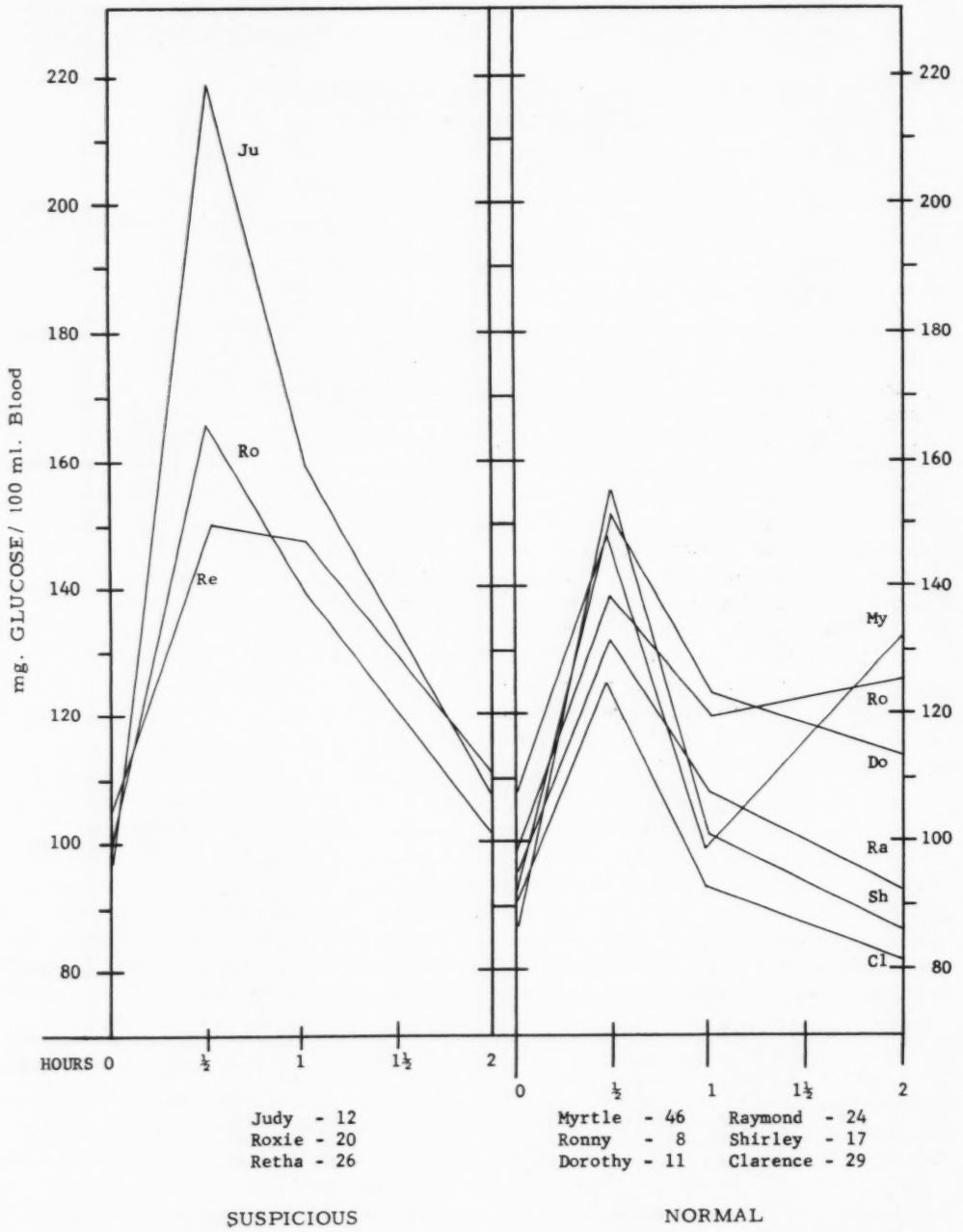
BERNADINE Z. PAULSHOCK, M.D.

The Delaware Hospital ward service has cared for a diabetic boy, now age 16, for 5 years. This boy is the seventh of ten children. Neither parent is diabetic nor knows any member of his progenitors to have been diabetic. The father is also one of ten children; all but one beside himself died early in life and no specific causes of death are known. Recently the patient's mother and eight of his nine siblings were tested with a standard two hour glucose tolerance test. The results of our study have been divided into 'Suspicious' and 'Normal' and graphed (Fig. 1.). Of the nine tests performed, three may be called suspicious and one (Judy) very markedly so.

It is evident that all three of our subjects with suspicious curves had two hour values below 112 mg.%; the abnormal quality of their tests resides in their high peak values. If the two sets of curves are compared it will be noted that the one hour tests of the suspicious patients are the most strikingly disparate from their relatives. Conversely, two of those included in the normal group had two hour levels above 120 mg.%. The mother's (Myrtle) seems quite normally a rebound phenomenon. Ronny's two hour level of 125 mg.% is associated with a peak value of only 138 mg.%; his test would be classified abnormal if it were considered without reference to his one hour level. The U.S. Public Health Service, which considers two hour values of over 129 mg. % as abnormal, would so classify him. Inspecting these curves, it seems that if 1½ hour values had been obtained, there would have been less uncertainty in the interpretation of slightly elevated two hour levels which actually represent rebound. The detection of glycosuria during the test was limited to the three with suspicious curves and, although this may be overfine interpretation, Judy's Clinitest value reached 4+ at one hour, and Roxie's test was 1+ at one hour, and Retha's was 3+ at one hour.

It should be remembered that there are a number of varying definitions available as to what does constitute an abnormal glucose tolerance test. Fajans and Conn[4] utilize a test which includes a 1½ hour value and classify their results as normal, diabetic, probably diabetic, and borderline. The New York City screening program classifies patients as normal, diabetic, probably diabetic, potentially diabetic, and indeterminate. When one attempts to compare one's own testing results with those of other investigators, it becomes even more apparent that the dividing line between normal and abnormal is somewhat arbitrary and must include recognition of the fact that measurement of blood glucose is, despite our refined techniques, a procedure

subject to amazing variations in different laboratories. For example, in a recent study in our own area, the same specimen was examined in 20 laboratories by five different methods a total of 195 times. The absolute range was 135 to 215 mg. % Ninety-five per cent of the determinations were included within 155 to 210 mg. %. Thus the error possible in any given single determination is astounding, reminding us



again that significant diagnosis must never rest on any single laboratory determination.

A recent report in the Annals of the New York Academy of Science[4] details glucose tolerance tests on 438 relatives of known diabetics and 127 controls. This paper reports tests performed on only nine persons. The complications in collecting this small series ranged from syncope secondary to venipuncture, through vomiting, to mere refusal to drink the glucose solution. It is apparent therefore that clinical research necessitates the cooperation of many personnel, and requires patience, tact, and diplomacy to the point of prevarication. The travails experienced in the pursuit of a small study such as this one increases one's respect for those clinical investigators who achieve series of heroic magnitude such as the study referred to above.

Diabetes Week has been conducted in Delaware about five years. During these weeks, (excluding 1960) 7,274 persons of their own volition received blood tests, urine tests, or both. One hundred and two previously undiscovered cases of diabetes of varying degree were discovered for an overall incidence of 1.4 per cent. In 1960 in Wilmington 1,230 people were tested; 24 strongly suspicious tests were obtained, an incidence of about 2 per cent.

Obviously, such surveys in no way represent random population samples, since the people tested are chiefly those who have made the deliberate effort to be tested and therefore the series is apt to include large numbers who have diabetic relatives or have been previously diagnosed as diabetics but avail themselves of the opportunity to check upon the diagnosis; yet general population surveys produce relatively low yields of previously unknown diabetics when compared to the yield obtained by testing a population of relatives of diabetics.

It has long been known that diabetes has an increased incidence among the relatives of a diabetic. Joslin's large series reports an incidence of 7 per cent as opposed to less than 2 per cent in the general population.[1] Using the steroid glucose tolerance test, Fajan and Conn found the incidence to be 25 per cent.[2] If their recent observation proves valid—that a pre-diabetic may be converted to normal carbohydrate metabolism by tolbutamide administration—there will be even more reason to detect abnormalities of glucose handling at their earliest manifestation[3] and to test all relatives of known diabetics.

Summary

1. Glucose tolerance tests have been performed on nine relatives of a juvenile diabetic; three suspiciously abnormal tests were obtained.
2. The criteria for evaluating glucose tolerance tests have been variously defined. More classifications than 'normal' and 'diabetic' are required if maximum information of a non-arbitrary character is to be acquired.
3. One and one-half hour determinations should be included in the two hour glucose tolerance tests to aid in the interpretation of slightly elevated two hour results.
4. The untested relatives of diabetics provide the most likely population for detection by survey of previously unknown diabetes.
5. Personal experience with clinical research has the fringe benefits of greatly increasing one's appreciation of the difficulties inherent in the testing of volunteers.

Appreciation is owed to numerous Delaware Hospital personnel including Janet Brown, R.N.; Mrs. Anna Sanders; L. B. Flinn, M.D.; Richard Kahlbaugh, M.D.; Edwin Richardson, Ph.D.; and the Clinical Chemistry staff. Marvin Shuster, M.D. kindly prepared the illustration.

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THE TREATMENT OF LOBAR PNEUMONIA

● **With the increasing frequency of allergic reactions to penicillin it is important to evaluate the efficacy of other antibiotics in the treatment of bacterial infections. This study indicates that erythromycn propionate compares favorably with phenoxymethyl penicillin in the treatment of pneumonia.**

WILLIAM J. HOLLOWAY, M.D.*
RICHARD A. KAHLBAUGH, M.D.**
ELVYN G. SCOTT, M.T.***

As recently as 1935 there was no specific antibacterial agent available for the treatment of lobar pneumonia. At present there are a number of drugs capable of effecting a cure in this disease, and the physician's problem is the proper selection and utilization of these drugs. Penicillin continues to be the drug of choice in lobar pneumonia, but the efficacy of a number of other antibiotics is now well established. The increasing frequency of allergic reactions to penicillin[1] requires the clinician to investigate the antibiotic history of each patient prior to treatment and when indicated employ a less allergenic antibiotic. Erythromycin has enjoyed considerable success in the therapy of pneumonia[2] and has been reported[3] to produce the lowest incidence of side reaction of any of the commonly used antibiotics. This study was undertaken to compare the effectiveness of erythromycin propionate† (propionyl ester of erythromycin) and phenoxymethyl penicillin† (penicillin V) when both were given orally in the treatment of lobar pneumonia.

†Supplied as Ilosone and V-Cillin K by Eli Lilly Co.

*Associate in Medicine, Delaware Hospital.
**Formerly Chief Resident in Medicine, Delaware Hospital.
***Director, Bacteriology Department, Delaware Hospital.

Method Of Study

During the 13-month period from December 31, 1959, through January, 1960, patients admitted to the ward medical service of the Delaware Hospital with a tentative diagnosis of lobar pneumonia were placed alternately on erythromycin propionate or phenoxymethyl penicillin therapy. Patients too ill to take oral medication were excluded from the study, and patients known to have received antibiotics prior to admission were not accepted on the study. Nasopharyngeal cultures and blood cultures were taken on all patients on admission, and sputum cultures were obtained whenever possible. A pretreatment hemogram, urinalysis, and chest roentgenogram were carried out on each patient. Post-treatment laboratory studies were done when there was indication.

Each drug was given in initial dosage of 500 milligrams followed by 250 milligrams every 6 hours. A few patients in each group were given 500 milligrams every 6 hours for 6 to 8 doses, based on the house physician's evaluation of the severity of illness. The duration of therapy in each case was dictated by the response of the patient and averaged about 6 days in each treatment group.

The final study group consisted of 70 patients. Thirty-two of these received penicillin, and thirty-eight were given erythromycin. Data concerning these patients are listed in the accompanying table.

	Penicillin	*Erythromycin*
Number of Cases	32	38
Median Age	49.3 years	46.5 years
Sex		
Male	24	21
Female	8	17
Duration of Symptoms Before Therapy	4.6 days	5.8 days
Number of Isolations of Pneumococcus	32	21
Number with Multiple Lobe Involvement	5	8
Duration of Fever After Therapy Started	20.4 hours	29 hours
Average Duration of Therapy	6.0 days	5.8 days
Good Results	27	33
Poor Results	2	1
Indeterminate	3	4

A pneumococcus was isolated from one or more sources in 39 of the 70 patients, and in the remaining 31 cases there was clinical evidence suggesting bacterial pneumonia. All patients with suspected or proven viral pneumonia were not included in the study.

Discussion

It can be seen in the table that both drugs were effective in a majority of the patients. Sixty of the 70 cases made a satisfactory recovery and were considered to be *good* results. Three of the patients *failed to respond* to therapy. The two failures on oral penicillin subsequently responded to other antibiotics. The failure with erythromycin subsequently received parenteral penicillin but expired.

In the patients referred to as having *indeterminate* response, we were unable to assess the effectiveness of the drug in relation to the final outcome. One such patient in each treatment group expired in the first 48 hours of therapy from causes other than the pneumonia. Unresolved pneumonia occurred in the other four patients in whom we were unable to evaluate the drug's effect.

Side effects of the antibiotics were limited to the gastrointestinal tract. Vomiting or diarrhea, usually accompanied by abdominal pain, occurred in 6 patients taking erythromycin and in one patient taking penicillin; however, these symptoms were not severe enough to warrant discontinuing the therapy, and in only two instances was symptomatic therapy required.

Not noted in the table is a patient who had a questionable allergic reaction to erythromycin propinate. This 38-year old male, with congestive failure and pneumonia of the right lower lobe, was given a 250-milligram dose of erythromycin propionate at 10 p.m. on the day of admission. At 12 midnight the nurse noticed that the patient was experiencing respiratory difficulty. A house officer saw the patient immediately and noted marked swelling of the tissues of the neck. An anesthesiologist was unable to pass an endotracheal tube, and the patient expired

before tracheotomy was accomplished. Necropsy revealed congestive failure, lobar pneumonia, and severe nephrosclerosis. The patient had not received any other drugs in the hospital but had been given separate injections of penicillin and a tetracycline 48 hours before admission. In addition, the patient's physician administered meperidine and diphenhydramine by injection, for analgesic and sedative effect, about 6 hours prior to death. There was no personal or family history of allergy, and the patient had not been previously exposed to erythromycin. In retrospect, it appears that this patient had a fulminating malignant hypertension and congestive failure with incidental lobar pneumonia. One can only conjecture whether or not the erythromycin propionate was responsible for the angioneurotic edema which resulted in death. Allergic reactions to erythromycin have been reported in the literature,[4] and one fatal case of anaphylactic shock followed an intramuscular injection of erythromycin.[5] In this particular case, however, the role of the large dose administered has been questioned, rather than the antibiotic itself, in producing the reaction.[6]

Summary

Phenoxymethyl penicillin and erythromycin propionate were given alternately to 70 adult patients admitted to the Delaware Hospital with the diagnosis of lobar pneumonia. The initial dose for each drug was 500 milligram followed by 250 milligrams every 6 hours. In 39 of the 70 cases a pneumococcus was isolated from one or more sources; the remaining cases met the clinical criteria for bacterial pneumonia. No significant difference in the results of therapy in the two groups was noted. Sixty of the 70 patients experienced a good result, 3 had a poor result, and in the remaining 7 we were unable to evaluate the effectiveness of therapy. There was a higher incidence (6:1) of minor gastrointestinal side effects in the patients who received erythromycin than in those given penicillin. A 38-year old man expired with angioneurotic edema two hours following a 250-milligram oral dose of erythromycin propionate. This drug could not conclusively be implicated as the etiologic agent. Erythromycin propionate compared favorably with phenoxymethyl penicillin in the treatment of lobar pneumonia.

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Contributors

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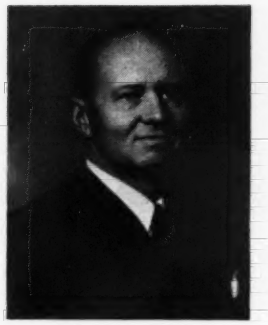
Walter L. Bailey, M.D., University of Maryland School of Medicine, '40; Interned at York Hospital, York, Penna. 1940-41, and Charleston General Hospital, Charleston, W.Va., 1941-42; Orthopedic Residency, St. Lukes Hospital, New York City, 1946-49.



President's Page

Vocational rehabilitation has been defined as "the rendering of a physically disabled person fit to engage in a remunerative occupation." In some patients, physical restoration may be all that is needed to assure their successful return to useful activity.

More often than not, however, the disabled patient needs additional therapy with psychological, educational and retraining guidance for maximal recovery. Increasingly, American communities are acquiring facilities and teams of people professionally trained to direct individualized and integrated programs so as to return disabled men and women to useful living.

The basic steps in the restoration of the patient with a handicap, whether from chronic disease or injury are:

1. Institute treatment as soon as the patient's need for it has been identified. He should not be unduly exposed to the disintegrating effects of needless delay, leading to idleness and hopelessness.

2. Combine the medical diagnosis with the diagnosis of vocational needs.

3. Supply guidance and counseling. The disabled person needs to understand his assets and liabilities, the cause of his problems and the measures necessary to correct these difficulties.

4. Restore physical needs, including prosthesis when necessary.

5. Train him both mentally and physically for better utilization of his skills, the development of new capabilities.

6. Utilize community resources for the auxiliary services required by the patient. These services may be community job information, transportation, books, maintenance, occupational tools, licenses, etc.

7. Place him in useful activity consistent with his ability to perform and with his mental temperament.

8. Follow his progress. The physician's total responsibility has not been met until the patient under his care has made the adjustments to useful, productive living.

Everyone who becomes ill or injured is to some extent, and for a variable period of time, dependent upon others. The dependency can become deeply rooted and give emotional satisfaction by protecting the individual from the need to face a competitive world. To help such a patient regain his economic usefulness and motivate him to use his abilities, calls for a clear understanding of the psychologic and social factors involved. Here the therapist must apply the art of medicine with patience and persistence.

Samuel C. McGee

Auxiliary Affairs

MEDICAL LEGISLATION OF INTEREST TO THE AUXILIARY TO THE MEDICAL SOCIETY

Auxiliary members were informed in the past as to the contents of the Forand Bill, and why Medicine is opposed to the Forand-type legislation. There is no doubt that Auxiliary members gave assistance in Medicine's program to defeat this compulsory health care in the last session of Congress.

However, the new administration and the liberal members of Congress have repeatedly made public statements to the effect that they will once again campaign for this compulsory social security taxed health care plan.

Each new administration usually makes a great effort to enact legislation during the first 90 days after Congress convenes, so we may expect that many Forand-type bills will be introduced into Congress after it convenes.

1. The Kerr-Mills Law provides legislation which will help every aged American who needs help for payment of health care, and not just the 60% who would be covered by the Forand social security program.

2. The program is voluntary—not compusory.

3. It will be administered on a local basis, on the theory that each state knows its own particular problem better than the Federal Government does.

4. The Kerr-Mills Law is economical, with local controls rather than Federal, and will be helping those who need help, and not wasting tax dollars for those who are perfectly willing and able to take care of their own health care costs.

5. The quality of medical care under this plan will be far superior to the Forand-type approach which would be Federally controlled in every way.

The objectives of our Medical Auxiliary legislative program do not change. They are:

1. To assist the Medical profession in the promotion of legislation that will advance the type of medical care beneficial to the health of the people.

2. To inform Auxiliary members on legislative matters.

3. To acquaint the public with views of the medical profession on national legislation with medical implications.

As Auxiliary members we must be ready for any activity the Medical Society assigns to us. Last year we were asked to write to our Congressmen, and we should be prepared to write again, covering the following:

Point out the advantages of the present Kerr-Mills program.

Express opposition to compulsory medical care for the aged, and cite reasons for the opposition.

In making up your own mind how you feel about this legislation, aside from the fact that your husband is a physician, isn't it just as simple as deciding whether you would prefer voluntary or compulsory health plans for you and your family, and acting accordingly?

Since each Auxiliary member is a voter in her own right it is suggested that the individual letters which the members write should be written on her own stationery, in long hand, and signed in her own name rather than that of her husband (Mrs. Jane Doe, rather than Mrs. John Doe).

Mr. Kennedy's program for the medical field includes:

Raising the federal grants for construction, expansion, and modernization of medical schools, dental schools, and schools of public health.

Providing grants for renovating our older hospitals. New hospital construction under

(Continued on Page 62)

Editorials

In some circumstances of civil law, a plaintiff must post bond to insure redress of the defendant if his charges prove unfounded. In a way, it is unfortunate that a physician, whose chief asset is his professional reputation, is denied this protection. There are theoretic and practical objections, not the least of which is a patient's right to justice regardless of his ability to post bond, but the fact remains that no physician who fights a malpractice suit in court emerges unscarred. His guilt or innocence fails to eradicate the memory that he was involved.

To his many grateful patients and to his colleagues, many of whom are also his patients, Dr. Dan Preston's care and ability were never in doubt. The high regard in which he is held is reflected in part by his staff positions in Wilmington hospitals, his past vice-presidency of the Medical Society of Delaware, and his presidency-elect of the New Castle County Medical Society.

Settlement of a malpractice case is the easy way out. It attracts little publicity, and is considered too often, even when the physician is in the right. Maintenance of the professional reputation can seem that important. The willingness to go to court, to defend a position because it is right, is the best possible deterent to specious malpractice suits. We congratulate Dr. Dan for displaying this willingness.

One of the most frightening things about malpractice suits, to the doctor involved, is the glare of newspaper publicity and the distorted image it sometimes projects to one's patients and colleagues. Newspapers, after all, are in the business of selling newspapers, and they have been known to place undue emphasis on the sensational aspects of a story for the sake of a good headline. We have known doctors whose handling of cases gained something in their own reports.

This leads us to comment upon the coverage of the Preston case by the Wilmington newspapers, which was, we felt, consistently objective, well-considered and and fair. Too many hurt feelings have passed back and forth between medicine and the press to overlook this opportunity to offer a sincere "well-done" to reporters who, it seemed to us, coped so well with the difficult problem of honoring the public's right to know in matters of public record and the physician's need to have his reputation for competence intact unless and until allegations to the contrary are proven.

"I will regard his offspring even as my own brethren."

Our Society joins Dr. Lawrence J. Jones in a feeling of intense pride upon the publication in a national medical journal of an article written 49 years ago by a former member of our society, Dr. John J. Jones. Mention of this article is made elsewhere in this issue but the reader is urged to consult the original text in the September, 1960 issue of *Surgery*. This son shows justified pride in the work of his father.

Getting back to 1961, we have a father who is justifiably proud of his son. In the January 19th issue of the *New England Journal of Medicine*, is an article from the Peter Bent Brigham Hospital by Dr. Robert B. Flinn, son of Dr. Lewis B. Flinn, and grandson of Dr. Irvine M. Flinn. This article describes an important piece of clinical investigation which will have far-reaching effects. Congratulations to the third generation of an outstanding medical family.

(Continued on Page 62)

In Brief

The Cart Before The Horse

Along with the problem of a national shortage in doctors, is the equally pressing problem—the provision of an adequate supply of teaching personnel to staff the medical faculties. The AAMC *Datagram* stated that 851 budgeted full-time faculty positions were unfilled for the academic year of 1959-60. To stimulate any significant increase in student enrollments without providing a correlated increase in medical faculties would be defeating the interests of medical education.

Collectors Item

Harry J. Repman, M.D., is an authority on rifles and pistols. His fine collection includes guns from the 17th Century; a Mississippi rifle used in the Mexican War; a Pennsylvania or Kentucky rifle; a Springfield rifle used in the Civil War; the first Winchester pin-fired rifle and the Yeager rifle used by the Hessians in the Revolutionary War. Dr. Repman exhibited his collection when he addressed the Greenville Lions Club on the topic "The Development of Firearms.

AAMA Material Available

A compilation of speeches on medical office management and patient relations given at the annual convention of the American Association of Medical Assistants in Dallas, Texas last October is now available by writing Department PR-1, Lakeside Laboratories, Inc., 1707 East North Ave., Milwaukee 1, Wis.

Participation

According to the National Association of Blue Shield Plans, over two-thirds of the 1,330 trustees serving on the boards of local plans are physicians—a fact which indicates the extent to which the leadership and guidance of doctors has contributed to the development of the Blue Shield program.

Operation With Hi-Fidelity

"Music to operate by" is already in practice at Shadyside Hospital, Pittsburgh, where physicians now work to the tune of soft music piped into the operating room. The music seems to have two effects: soothing the patients before they lose consciousness, and relaxing the surgeons at their tiring work.

An Ounce Of Prevention

Physicians are urged to look for the secret alcoholic among patients under their care for other reasons. Information leading to this detection can often be uncovered when taking the patient's history and may save the patient from further grief and illness.

Trips To Europe

Health Information for Travel in Europe, a leaflet listing the required and recommended immunizations for this trip, may be obtained for 5 cents a copy from the superintendent of Documents, Government Printing Office, Washington 25, D.C..

Free Care By Physicians

A nation-wide sampling of private practitioners by New Medica Materia showed that more than 98% of all American physicians give free medical care; that 60% devote 10% or more of their working hours to free service; that total value of free care by physicians has increased 10.6% in the last five years.

Personal Glimpses

Floyd I. Hudson, M.D., and William O. LaMotte, Jr., M.D., (substituting for C. J. Prickett, M.D.) were among the ten delegates representing Delaware at the January White House Conference on Aging . . . Marjorie Conrad, M.D., addressed the Wilmington Chapter of the American Institute of Banking on the uses of hypnosis in medicine and allied professions and gave a demonstration . . . Davis G. Durham, M.D., will give an account of his experience aboard the S.S. Hope in Indonesia at the annual meeting of the Academy of Medicine, March 7, to be held at the Academy . . . Chester R. Deitz, M.D., has been named director, Wilmington Child Guidance Center by the Welfare Council of Delaware, Inc. . . . Wallace M. Johnson, M.D., as former Mayor of Newark, and as originator of the Committee for Merit Awards of Greater Newark, selected the recipient of the 1960 Citizen of the Year Award and made the official presentation at a banquet . . . Drs. Otaker J. Pollak, David J. Reinhardt, III and Arthur Heather, recipients of grants for heart research, addressed a meeting of the Delaware Heart Association and talked on their work . . . Drs. David Levitsky, Jason L. Campbell and A. Gerald Lessey, participated in a program presented by the Delaware Speech and Hearing Association in cooperation with the Medical Society of Delaware held in the Academy of Medicine in January . . . Lemuel C. McGee, M.D., appears in the January 7 issue of JAMA with a discourse on Ramazzini, the "father of industrial medicine," as an addendum to the editorial, *Via Padua* . . . James E. Marvil, M.D., Laurel, is a member of the board of directors, Alumni Postgraduate Association of the Gill Memorial Eye, Ear, Throat Hospital . . . Lewis B. Flinn, M.D., has recently returned from Uganda where he has been visiting his new grandchild . . . Daniel J. Preston, M.D., gave an illustrated talk on his experiences in Africa to the women of Ascensian Church, Claymont.

Shortage

A thirty percent increase in the number of doctors entering training programs to become psychiatrists is reported by the Joint Information Service of the American Psychiatric Association and the NAMH. At least 13,000 more psychiatrists are needed, says the Service—a figure which cannot be reached at the present rate of only a little more than 350 doctors who enter the psychiatric ranks each year.

The Drug Age

More specific new drugs have been released in the past twenty years than in all recorded medical history, according to *Chain Store Age*. A national survey has revealed that four out of five drugs used today are the result of research by fifty-four manufacturers who have spent one billion dollars in drug development since 1950.

ANNOUNCEMENTS

April In Paris

A Post-Graduate Seminar in Paris April 4-16 will be sponsored by the Jefferson Medical College of Philadelphia. The seminar is open to all Jefferson Alumni as well as faculty members.

Training Program

A training program in Radiation Biology and Cancer Related Research, conducted by the Bowman Gray School of Medicine, will receive applications until April 15 for the session beginning July 1, 1961. All inquiries may be directed to: Dr. Donald J. Pizzarello, Executive Director, Bowman Gray School of Medicine, Winston Salem, N.C.

American College Of Surgeons

Surgeons, graduate nurses, and related medical personnel are invited to attend the annual four-day Section Meeting of the American College of Surgeons in Philadelphia, March 6, 1961. Headquarters will be the Bellevue Stratford, Ben Franklin, and Sylvania Hotels, with some sessions scheduled at leading hospitals in the city.

Gill Memorial Spring Congress

The Gill Memorial, Eye, Ear and Throat Hospital will hold its 34th Annual Spring Congress in Ophthalmology and Otolaryngology and Allied Specialties, April 10-15, 1961. There will be 20 guest speakers and 50 lecturers.

Medico-Legal

One of three regional medico-legal conferences to be sponsored by the AMA will be held in New York City on April 28-29. Although the final agenda is incomplete, the program will include Res Ipsa Loquitur in Malpractice Cases, the Use and Misuse of Demonstrative Evidence in Personal Injury Litigation, Medical Expert Testimony, and a discussion of the twelve most important cases in the medico-legal field decided during the past 18 months.

Outing

The Delaware Pharmaceutical Society will be host at an inter-professional party for Delaware physicians June 18th at the Lewes farm of Otis Smith. The fun will start at 2:00 p.m. and last till dusk. The outing is a highlight of the 75th Annual Convention of the Pharmaceutical Society.

New Officers

The Kent County Medical Society has elected the following officers for 1961; Eugene R. McNinch, M.D., president; Otaker J. Pollak, M.D., vice-president; Edward S. Dennis, M.D., secretary-treasurer . . . Meetings will be held at 10:00 a.m. on the third Sunday, February, May, October and December at the Treadway Inn, Dover . . . New officers of the Delaware Diabetes Association are: Charles Levy, M.D., president; William T. Hall, M.D., vice-president; Marvin H. Dorph, M.D., secretary; Robert Klingel, M.D., assistant secretary; Herbert M. Baganz, M.D., treasurer and Edward J. Bohan, M.D., liaison . . . H. Thomas McGuire, M.D., is the new president of the Catholic Physicians' Guild, succeeding Peter J. Olivere, M.D., James J. Gallagher, M.D., vice-president; Charles A. R. Skowron, M.D., secretary and Stephen W. Bartoshesky, treasurer.

Books

Recent Accessions to the Library of the Delaware Academy of Medicine

ANATOMY

Walstenholme, G. E. W. and O'Connor, Cecilia M., eds.; Ciba Foundation Symposium on Congenital Malformations, 1960. Little, Brown and Company

BACTERIOLOGY AND IMMUNOLOGY

Ciba Foundation: Cellular Aspects of Immunity, 1960.

Jawetz, Ernest; Melnick, Joseph L., and Adelberg, Edward A.: Review of Medical Microbiology, 4th ed., 1960. Lange Medical Publishers

Willis, A. Trevor: Anaerobic Bacteriology in Clinical Medicine, 1960. Butterworth

BIOCHEMISTRY

Jenkins, Glenn L. and Hartung, Walter H.: The Chemistry of Organic Medicinal Products, 3rd ed., 1941. John Wiley and Sons

CARDIOVASCULAR SYSTEM

Bakuler, A. N.: Surgical Treatment of Mitral Stenosis, 1958. U.S.S.R. Publishing House for Medical Literature

Hoffman, Brian F. and Cranefield, Paul F.: Electrophysiolgy of the Heart, 1960. McGraw-Hill

Jacobs, A. L.: Arterial Embolism in the Limbs, 1959. Williams and Wilkins

Luisada, Aldo A. and Rosa, Leslie M.: Treatment of Cardiovascular Emergencies, 1960. McGraw-Hill

Ongley, P. A.; Sprague, Howard B.; Rappaport, M. B., and Nada, A. S.: Heart Sounds and Murmurs, 1960. Grune and Stratton

Sanger, Paul W.; Robicsek, Francis; Taylor, Frederick, H. and Verhoeff, Dirk, eds.: Collected Works on Cardio-Pulmonary Disease, 1960. Heineman Foundation Laboratories

DENTISTRY

Anderson, George M.: Practical Orthodontics, 9th ed., 1960. Mosby

Bernier, Joseph L.: Tumors of the Odontogenic Apparatus and Jaws, 1960. Armed Forces Institute of Pathology

Blackman, Sydney: An Atlas of Dental and Oral Radiology, 1959. John Wright and Sons

Tylman, Stanley D. and Tylman, Stanley G.: Theory and Practice of Crown and Bridge Prosthodontics, 4th ed., 1960. Mosby

ENDOCRINOLOGY AND METABOLISM

Ciba Foundation: Human Pituitary Hormons, 1960. Little, Brown and Company

Stansbury, John B.; Wyngaarden, James B.; and Fredickson, Donald S., eds.: The Metabolic Basis of Inherited Diseases, 1960. McGraw-Hill

HEMATOLOGY

Kato, Katsuji: Atlas of Clinical Hematology, 1960. Grune and Stratton

Smith, Carl H.: Blood Diseases of Infancy and Childhood, 1960. Mosby

HISTORY OF MEDICINE

Hochberg, Lew A.: Thoracic Surgery before the Twentieth Century, 1960. Vantage Press

Mendez, Christobal: Book of Bodily Exercise 1960. Waverly Press

INDUSTRIAL MEDICINE

Johnstone, Rutherford T. and Miller, Seward E.: Occupational Diseases and Industrial Medicine, 1960. Saunders

MEDICINE

Edwards, Joseph C.: Management of Hypertensive Diseases 1960. Mosby

Heather, Arthur J.: Manual of Care for the Disabled Patient, 1960. MacMillan

Snapper, I.: Bedside Medicine, 1960. Grune and Stratton

MISCELLANEOUS

Bierring, Walter L.: Rypin's Medical Licensure Examinations, 9th ed. 1960. Lippincott

Ellingson, Harold V.: Medical Problems of Modern Air Travel, 1960. F. A. Davis Company

Kevorkian, Jack: Medical Research and the Death Penalty, 1960. Vantage Press

Utkin, I. A., ed.: Problems of Medicine and Biology in Experiments on Monkeys, 1960. Pergamon Press

MUSCULOSKELETAL SYSTEM

American College of Surgeons, Committee on Trauma: Management of Fractures and Soft Tissue Injuries, 1960. Saunders

NEOPLASTIC DISEASES (See also Obstetrics and Gynecology; Pathology)

Pack, George T. and Ariel, Irving M., eds.: Treatment of Cancer and Allied Diseases, 2nd ed., Vol IV. Tumors of the Breast, Chest and Esophagus, 1960. Hoeber

NURSING

Britten, Jessie D.: Practical Notes on Nursing Procedures, 3rd ed.

OBSTETRICS AND GYNECOLOGY

Greenhill J. P.: Obstetrics, 12th ed., 1960 Saunders

Hertig, Arthur T. and Gore, Hazel: Tumors of the Female Sex Organs, Part 2, 1960. Armed Forces Institute of Pathology

PATHOLOGY (See also Obstetrics and Gynecology)

Page, Lat B. and Culver Perry J.: A Syllabus of Laboratory Examinations in Clinical Diagnosis, 1960. Harvard University Press

Transactions Seventh Annual Meeting of the Inter-Society Cytology Council, 1959

PEDIATRICS

Abramson, Harold, ed.: Resuscitation of the Newborn Infant, 1960. Mosby

Krugman, Saul and Ward, Robert: Infectious Diseases of Children, 2nd ed., 1960. Mosby

Vignec, Alfred J.: Emergency Syndromes in Pediatric Practice, 1959. Landsberger Medical Books

PHARMACOLOGY

Innerfield, Irving: Enzymes in Clinical Medicine, 1960. McGraw-Hill

Sunderman, F. William and Sunderman, F. William, Jr., eds.: Lipids and the Steroid Hormones in Clinical Medicine, 1960. Lippincott

PHYSIOLOGY

Academy of Sciences U.S.S.R.: Problems of Evolution of Physiological Functions, 1958.

Ciba Foundation Symposium: Haemopoiesis, 1960. Little, Brown and Company

Ciba Foundation: Regulation of the Inorganic Ion Content of Cells, 1960. Little, Brown and Company

Strauss, Bernard S.: An Outline of Chemical Genetics, 1960. Saunders

PSYCHIATRY

Meares, Ainslie: A System of Medical Hypnosis, 1960. Saunders

Saul, Leon J.: Emotional Maturity, 2nd ed., 1960. Lippincott

RADIOLOGY

Andrews, Gould A.; Brucer, Marshall, and Anderson Elizabeth B., ed.: Radioisotopes in Medicine, 1953, United States Atomic Energy Commission

RESPIRATORY SYSTEM

Felson, Benjamin: Fundamentals of Chest Roentgenology, 1960. Saunders

Luchsinger, Peter C. and Moser, Kenneth M., eds.: Respiration, 1960. Mosby

SURGERY (See also Cardiovascular System)

Artz Curtis P. and Hardy, James D., eds.: Complications in Surgery and Their Management, 1960. Saunders

Howard, John M. and Jordan, Jr., George L.: Surgical Diseases of the Pancreas 1960. Lippincott

UROLOGY

Lawsley, Oswald S. and Kirwin, Thomas Joseph: Clinical Urology, 3rd ed., Vol. 1 and 2, 1956. Williams and Wilkins

Metcoff, Jack, ed.: Proceedings of the Eleventh Annual Conference on the Nephrotic Syndrome, 1960. National Kidney Diseases Foundation

Quinn, Edward L. and Kass, Edward H., eds.: Biology of Pyelonephritis, 1960. Little, Brown and Company

AUXILIARY AFFAIRS (Continued)

the Hill-Burton Act has gone ahead, but new hospitals are not enough.

Providing loans and scholarships for medical students because of the inhibitive cost of this education which now runs to $12,000, not including the years of internship and special study.

Providing long-term grants for increased medical research, including basic research, with more money available for longer experiments and more equipment.

Expanding our efforts for rehabilitation so that more and better sources are available.

It is interesting to note that there are eight physicians holding congressional seats during the coming session, including one physician from Alaska and one from Puerto Rico.

MRS. SYLVESTER RENNIE, CHAIRMAN
Committee On Legislation

EDITORIALS (Continued)

Armed only with a membership roster of the Medical Society, pencil, paper, and a fair memory, we were able to come up with the following list of Delaware medical families:

In Kent County we have the McDaniel while in Sussex we have the Beebe, James, and Elliott with the Waples and Hopkins families in the not too distant past. In New Castle we have the three generations of the Flinns with Allen, Jones, Briggs, Pierson, LaMotte, Barsky, Chipman, McElfatrick, and Springer.

We make no claim for completeness nor do we include the numerous physicians whose fathers were physicians elsewhere. It is our intention to show that even a small state such as Delaware can boast of many fine families dedicated to the practice of medicine. This is a healthy trend and one which we hope will continue.

Available only to physicians for their distribution—

Complete Cholesterol Depressant Menus and Recipe Book

A new, authoritative patient-aid . . . for professional distribution only

Now available for use in your practice from The Wesson People . . . easy-to-use manual of 40 pages, including all necessary diet instructions . . . menus, recipes, shopping and cooking guidance . . . all worked out for you . . . so arranged and printed that you have only to check the desired daily calorie level before giving the book to your patient.

You will find this book invaluable for treating patients with elevated serum cholesterol.

Complete menus for 10 days enable you to prescribe diets which are appetizing, nutritiously adequate and which can exert cholesterol depressant activity. Special attention has been given to constructing the menu patterns so that they adhere as closely as permissible to the patient's normal eating habits.

NRC Standards fulfilled. Each menu has been calculated to provide the proper daily allowance of proteins, vitamins and other nutrients as recommended by the Food and Nutrition Board of the National Research Council.

Weight control is achieved as each day's menu is given at 3 calorie levels—1200, 1800 and 2600 calories. You prescribe the level most desirable and modify as desired.

Variety and appetite appeal for patient are built into the menu plan to an extent not previously accomplished. Alternate choices for main dishes minimize monotony, encourage the patient to follow closely the menu plan you specify.

Complete recipes—65 in all—are included to assure that the specified menus provide prescribed levels of calories, the pre-determined ratio of poly-unsaturated to saturated fat, plus essential nutrients.

Dietary fat is controlled so that approximately 36% of the total calories are derived from fat and at least 40% of these fat calories are from poly-unsaturated components (linoleates) as found in pure vegetable oil. The replacement of saturated dietary fat by this percentage of poly-unsaturated fat has been found in clinical studies most effective in the reduction of serum cholesterol and in its maintenance at desirable levels. More liberal menus are provided for maintenance after the patient's progress indicates that desired therapeutic results have been accomplished.

Family meal preparation is simplified. The menus are planned around favorite foods having wide appetite appeal for all members of the household. Patients can entertain in comfort—enjoy cakes, cookies, snacks, prepared with recipes which meet medical requirements.

A high degree of satiety is achieved even at the lower calorie levels, because Wesson provides an unexcelled source of concentrated, slow-burning food energy.

Adaptable for use with diabetics. Carbohydrates have been calculated to fall within the acceptable range for patients to whom a diet planned for diabetes is important. Calories, which must be supplied from fat when the carbohydrate intake is limited, are provided by desirable poly-unsaturated vegetable oil.

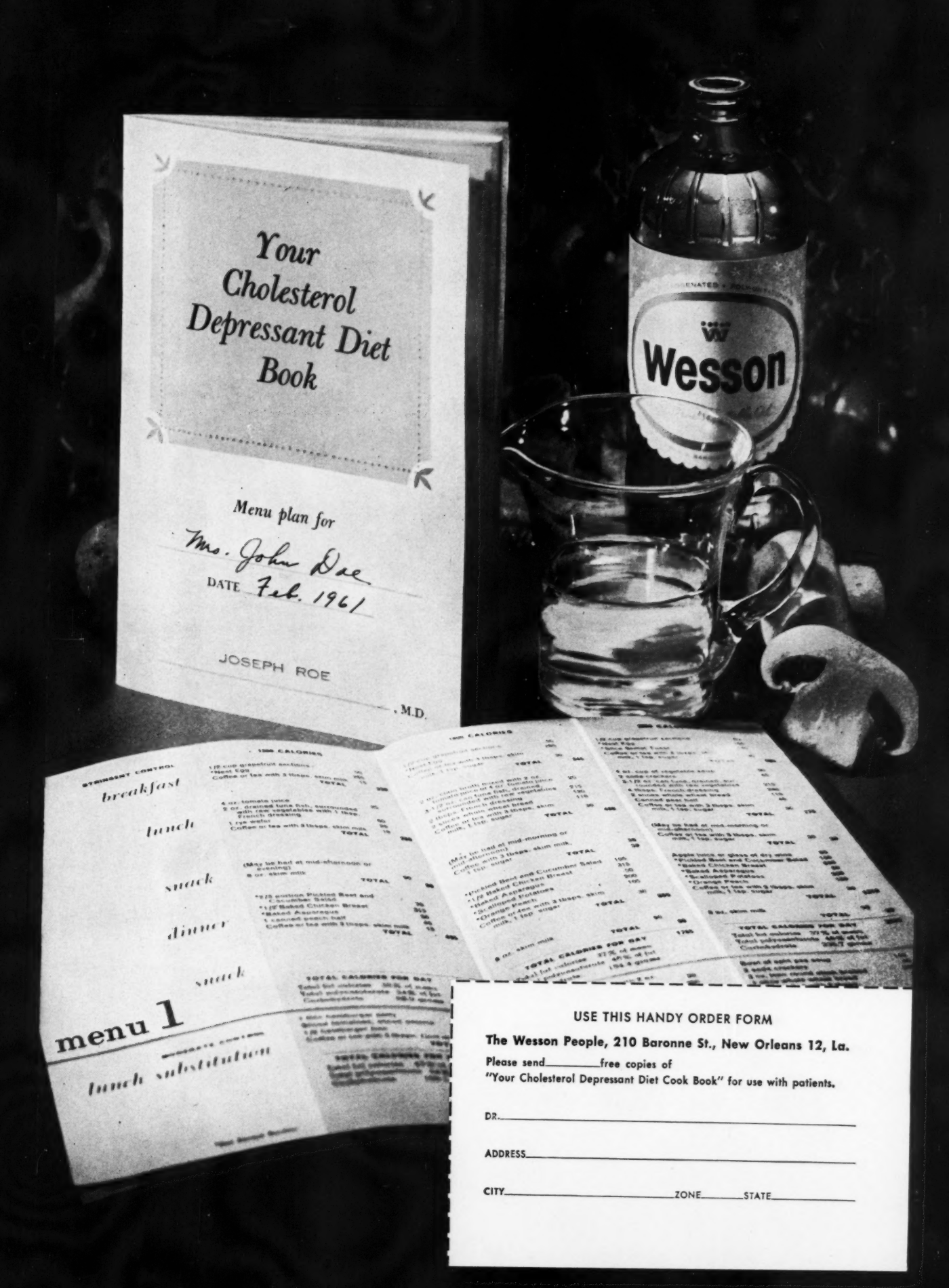
WESSON'S IMPORTANT CONSTITUENTS

Wesson is 100% cottonseed oil—winterized and of selected quality

Linoleic acid glycerides (poly-unsaturated)	50-55%
Oleic acid glycerides (mono-unsaturated)	16-20%
Total unsaturated	70-75%
Palmitic, stearic and myristic glycerides (saturated)	25-30%
Phytosterol (Predominantly beta sitosterol)	0.3-0.5%
Total tocopherols	0.09-0.12%

Never hydrogenated—completely salt free

Poly-unsaturated Wesson is unsurpassed by any readily available brand, where a vegetable (salad) oil is medically recommended for a cholesterol depressant regimen.



ANNOUNCING—
SPECIFICALLY FOR
INFECTIONS DUE TO
"RESISTANT" STAPHYLOCOCCI

AN ENTIRELY NEW SYNTHETIC
"STAPH-CIDAL" PENICILLIN

Staphcillin™

sodium dimethoxyphenyl penicillin
FOR INJECTION

UNIQUE—BECAUSE IT
RETAINS ANTIBACTERIAL
ACTIVITY IN THE PRESENCE OF
STAPHYLOCOCCAL PENICILLINASES
WHICH INACTIVATE
OTHER PENICILLINS

Bristol™

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NEW SYNTHETIC PENICILLIN FOR "RESISTANT" STAPH

OFFICIAL PACKAGE CIRCULAR
November, 1960

STAPHCILLIN™

(sodium dimethoxyphenyl penicillin)

For Injection

DESCRIPTION

STAPHCILLIN is a unique new synthetic parenteral penicillin produced by Bristol Laboratories for the specific treatment of staphylococcal infections due to resistant organisms. Its uniqueness resides in its property of resisting inactivation by staphylococcal penicillinase. It is active against strains of staphylococci which are resistant to other penicillins.

Each dry filled vial contains: 1 Gm. STAPHCILLIN (sodium dimethoxyphenyl penicillin), equivalent to 900 mg. dimethoxyphenyl penicillin activity.

INDICATIONS

STAPHCILLIN is recommended as specific therapy only in infections due to strains of staphylococci resistant to other penicillins, e.g.:

Skin and soft tissue infections: cellulitis, wound infections, carbuncles, pyoderma, furunculosis, lymphangitis and lymphadenitis.

Respiratory infections: staphylococcal lobar or bronchopneumonia, and lung abscesses combined with indicated surgical treatment.

Other infections: staphylococcal septicemia, bacteremia, acute or subacute endocarditis, acute osteomyelitis and enterocolitis.

Infections due to penicillin-sensitive staphylococci, streptococci, pneumococci and gonococci should be treated with Syncillin® or parenteral penicillin G rather than STAPHCILLIN. Treponemal infections should be treated with parenteral penicillin G.

DOSAGE AND ADMINISTRATION

STAPHCILLIN is well tolerated when given by deep intragluteal or intravenous injection.

As is the case with other antibiotics, the duration of therapy should be determined by the clinical and bacteriological response of the patient. Therapy should be continued for at least 48 hours after the patient has become afebrile, asymptomatic and cultures are negative. The usual duration has been 5-7 days.

Intramuscular route: The usual adult dose is 1 Gm. every 4 or 6 hours. Infants' and children's dosage is 25 mg. per Kg. (approximately 12 mg. per pound) every 6 hours.

Intravenous route: 1 Gm. every 6 hours using 50 ml. of sterile saline solution at the rate of 10 ml. per minute.

**Warning:* Solutions of STAPHCILLIN and kanamycin should not be mixed, as they rapidly inactivate each other. Data on the results of mixing STAPHCILLIN with other antibiotics are being accumulated.

DIRECTIONS FOR RECONSTITUTION

Add 1.5 ml. sterile distilled water or normal saline to a 1 Gm. vial and shake vigorously. Withdraw the clear, reconstituted solution (2.0 ml.) into a syringe and inject. The reconstituted solution contains 500 mg. of STAPHCILLIN per ml. Reconstituted solutions are stable for 24 hours under refrigeration.

For intravenous use, dilute the reconstituted dose in 50 ml. of sterile saline and inject at the rate of 10 ml. per minute.

*This statement supersedes that in the Official Package Circulars dated September and/or October, 1960.

(continued)

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OFFICIAL PACKAGE CIRCULAR
(continued)

MICROBIOLOGICAL AND PHARMACOLOGICAL PROPERTIES

In vitro studies show that STAPHCILLIN is a bactericidal penicillin with activity against staphylococci resistant to penicillin G. Strains of staphylococci so far tested have been sensitive to STAPHCILLIN *in vitro* at concentrations of 1-6 mcg. per ml. These levels are readily attained in the blood and tissues by administration of STAPHCILLIN at the recommended dosage. This unique attribute is probably due to the fact that STAPHCILLIN is stable in the presence of staphylococcal penicillinase. STAPHCILLIN also resists degradation by *B. cereus* penicillinase. The antimicrobial spectrum of STAPHCILLIN with regard to other microorganisms is qualitatively similar to that of penicillin G; but considerably higher concentrations of STAPHCILLIN are required for bactericidal activity than is the case with penicillin G.

STAPHCILLIN is rapidly absorbed after intramuscular injection. Peak blood levels (6-10 mcg./ml. on the average after a 1.0 Gm. dose) are attained within 1 hour; and then progressively decline to less than 1 mcg. over a 4 to 6 hour period. It is poorly absorbed from the gastrointestinal tract. STAPHCILLIN is rapidly excreted by the kidney.

As shown by animal studies, STAPHCILLIN is readily distributed in body tissues after intramuscular injection. Of the tissues studied, highest concentrations are reached in the kidney, liver, heart and lung in that order; the spleen and muscles show lower concentrations of the antibiotic. STAPHCILLIN diffuses into human pleural and prostatic fluids, but its diffusion into the spinal fluid has not yet been completely studied. However, one patient with meningitis showed a significant concentration in his spinal fluid while on STAPHCILLIN therapy.

Toxicity studies with STAPHCILLIN and penicillin G in animals show that they have approximately the same low order of toxicity.

Certain staphylococci can be made resistant to STAPHCILLIN in the laboratory, but this resistance is not related to their penicillinase production. During the clinical trials, no STAPHCILLIN-resistant strains of staphylococci were observed or developed; the possibility of the emergence of such strains in the clinical setting awaits further observation.

PRECAUTIONS

During the clinical trials, several mild skin reactions, e.g., itching, papular eruption and erythema were observed both during and after discontinuance of STAPHCILLIN therapy. Patients with histories of hay fever, asthma, urticaria and previous sensitivity to penicillin are more likely to react adversely to the penicillins. It is important that the possibility of penicillin anaphylaxis be kept in mind. Epinephrine and the usual adjuvants (antihistamines, corticosteroids) should be available for emergency treatment. Because of the resistance of STAPHCILLIN to destruction by penicillinase, parenteral *B. cereus* penicillinase may not be effective for the treatment of allergic reactions. Information with regard to cross-allergenicity between penicillin G, penicillin V, phenethicillin (Syncillin) and STAPHCILLIN is not available at present. If superinfection due to Gram-negative organisms or fungi occurs during STAPHCILLIN therapy, appropriate measures should be taken.

SUPPLY

List 79502 — 1.0 Gm. dry filled vial.

BRISTOL LABORATORIES · SYRACUSE, NEW YORK
Division of Bristol-Myers Company

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UNIQUE SYNTHETIC "STAPH-CIDAL" PENICILLIN

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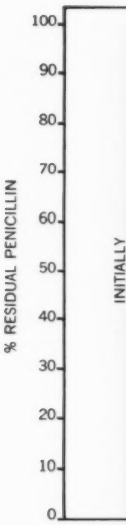

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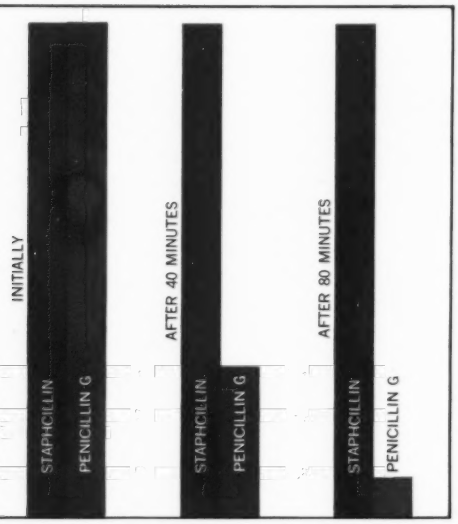


In the presence of staphylococcal penicillinase, STAPHCILLIN remained active and retained its antibacterial action. By contrast, penicillin G was rapidly destroyed in the same period of time. *(After Gourevitch et al., to be published)*

ically for "resistant" staph...

taphcillin™

sodium dimethoxyphenyl penicillin
FOR INJECTION

f staphylococcal infections to respond to penicillin therapy is attributed to -destroying enzyme, penicillinase, produced by the invading staphylococcus.

penicillins:

LLIN is effective because it retains its antibacterial activity despite the pres- ylococcal penicillinase.

cal effectiveness of STAPHCILLIN has been confirmed by dramatic results in y of infections due to "resistant" staphylococci, many of which were serious tening.

nicillins:

LLIN has no significant systemic toxicity. It is well tolerated locally, and tion at the injection site is comparable to that following the injection of *In occasional cases, typical penicillin reactions may be experienced.*

NAL INFORMATION SERVICE — The attached Official Package Circular provides com- tion on the indications, dosage, and precautions for the use of STAPHCILLIN. If you desire formation concerning clinical experiences with STAPHCILLIN, the Medical Department of atories is at your service. You may direct your inquiries via collect telephone call to New York, , or by mail to Medical Department, Bristol Laboratories, 630 Fifth Ave., N. Y. 20, N. Y.

L LABORATORIES • SYRACUSE, NEW YORK

Division of Bristol-Myers Company

Put your low-back patient back on the payroll

Soma's prompt relief of pain and stiffness can get your low-back patients back to work in days instead of weeks

Soma is unique because it combines the properties of an effective muscle relaxant and an independent analgesic in *a single drug.* Unlike most other muscle relaxants, which can only relax muscle tension, Soma attacks both phases of the pain-spasm cycle at the same time.

Thus with Soma, you can break up both pain and spasm fast, effectively . . . help give your patient the two things he wants most: relief from pain and rapid return to full activity.

Soma is notably safe. Side effects are rare. Drowsiness may occur, but usually only with higher dosages. Soma is available in 350 mg. tablets. Usual dosage is 1 tablet q.i.d.

The muscle relaxant with an independent pain-relieving action

SOMA®

(carisoprodol, Wallace)

Wallace Laboratories, Cranbury, New Jersey

How you can help save your patients a month's pay

Kestler reports in J.A.M.A. (April 30, 1960) that conventionally treated low-back syndrome patients required an average of 41 days for full recovery (range: 3 to 90 days). The addition of Soma therapy in this comparative investigation reduced the average to 11.5 days (range: 2 to 21 days). With Soma, patients averaged full recovery 30 days sooner.

Keep medical education on the march

When your patient needs plasma, you make sure he gets it. Right now, the medical schools of our nation need the plasma of your financial aid—need it badly—to maintain our present high standards in medical education.

Since the days of Hippocrates, who declared the obligation "... to share my substance with (the student) and relieve his necessities if required," doctors have contributed of their substance to keep medical knowledge on the march. Today you can contribute most effectively by aiding our medical schools through gifts to AMEF.

If others are to understand this need and offer help, the medical profession must take the lead in supporting the nation's medical schools. Make out *your* check to the AMEF *today*. Every cent of your gift will go to the school—or schools—of your choice.

Give to the AMERICAN MEDICAL EDUCATION FOUNDATION
535 North Dearborn Street, Chicago 10, Illinois

What's she doing that's of medical interest?

She's drinking a glass of pure Florida orange juice. And that's important to her physician for several reasons.

How your patients obtain their vitamins or any of the other nutrients found in citrus fruits is of great medical interest — considering the fact there are so many wrong ways of doing it, so many substitutes and imitations for the real thing.

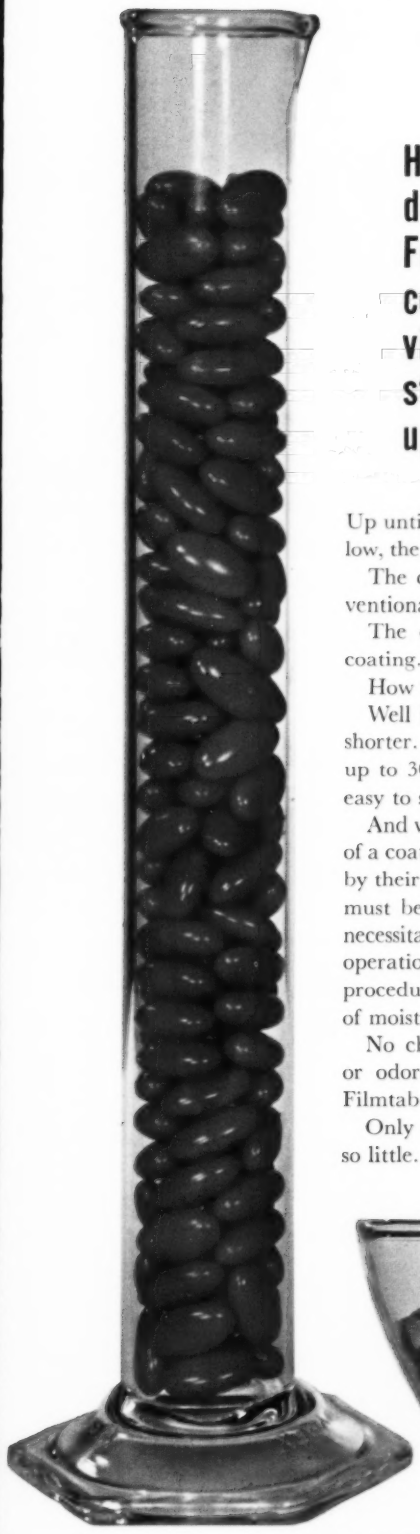
Actually, there's no better way for this young lady to obtain her vitamin C than by doing just what she is doing, for there's no better source than oranges and grapefruit ripened in the Florida sunshine. There's no substitute for the result of nature's own mysterious chemistry, flourishing in the warmth of this luxurious peninsula.

An obvious truth, you might say, but not so obvious to the parents of many teen-agers.

We know that a tall glass of orange juice is just about the best thing they can reach for when they raid the refrigerator. We also know that if you encourage this refreshing and healthful habit, you'll be helping patients to the finest between-meals drink there is.

Nothing has ever matched the quality of Florida citrus — watched over as it is by a State Commission that enforces the world's highest standards for quality in fresh, frozen, canned or cartoned citrus fruits and juices.

That's why the young lady's activities are of medical interest.



How do Filmtab® coated vitamins stack up?

Up until the moment we put the coatings on the Optilets® below, the tablets were all the same. Now, consider the differences.

The column on the left contains 125 Optilets with a conventional sugar coating.

The column on the right—125 Optilets with a Filmtab coating.

How do they stack up?

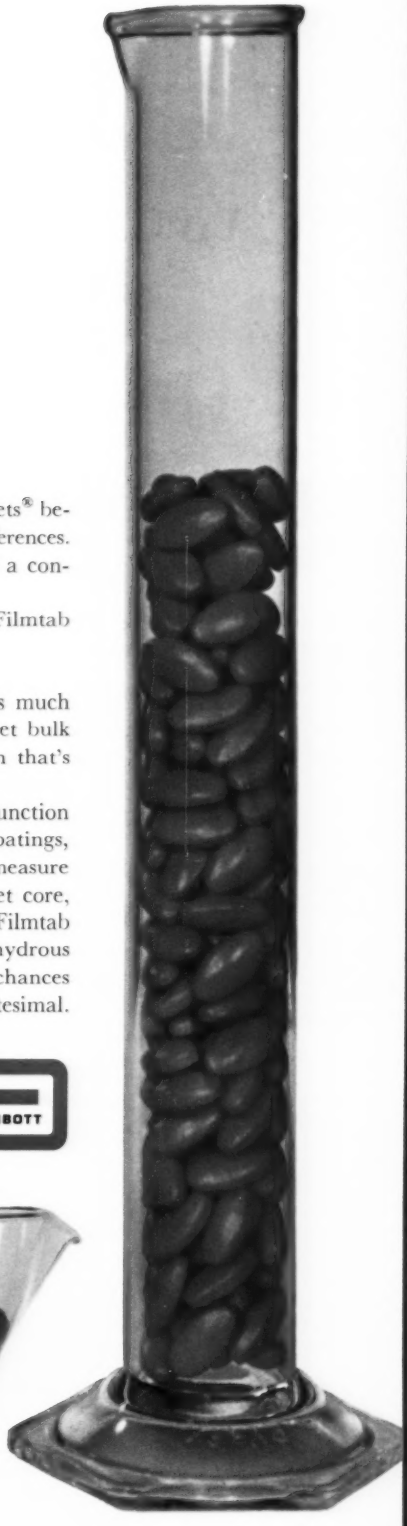
Well it's easy to see that the column on the right is much shorter. That's because the Filmtab coating cuts tablet bulk up to 30%. The result is a small, streamlined vitamin that's easy to swallow—the most compact tablet of its kind.

And when it comes to protecting potency (the main function of a coating), the Filmtab is in a class by itself. Sugar coatings, by their very nature, are aqueous solutions. Yet every measure must be taken to keep moisture out of the vital tablet core, necessitating "seal" coats which also increase bulk. The Filmtab operation, on the other hand, is essentially an anhydrous procedure. Seal coats are neither used nor needed. The chances of moisture being trapped inside the tablet are infinitesimal.

No chipping or breaking, no vitamin tastes or odors, no wasted vitamins—thanks to the Filmtab coating.

Only the Abbott Filmtab offers so much in so little.

ABBOTT



Filmtab—Film-sealed Tablets, Abbott.

Abbott Vitamins Stay On the Table

...in attractive daily-reminder table-bottles

MAINTENANCE FORMULAS

DAYTEENS™ To help insure optiomal nutrition in growing teenagers

Each Filmtab® represents:

Vitamin A	(5000 units) 1.5 mg.
Vitamin D	(1000 units) 25 mcg.
Thiamine Mononitrate (B_1)	2 mg.
Riboflavin (B_2)	2 mg.
Nicotinamide	20 mg.
Pyridoxine Hydrochloride	0.5 mg.
Cobalamin (Vitamin B_{12})	2 mcg.
Calcium Pantothenate	5 mg.
Ascorbic Acid (C)	50 mg.
Iron (as sulfate)	10 mg.
Copper (as sulfate)	0.15 mg.
Iodine (as calcium iodate)	0.1 mg.
Manganese (as sulfate)	0.05 mg.
Magnesium (as oxide)	0.15 mg.
Calcium (as phosphate)	250 mg.
Phosphorus (as calcium phosphate)	193 mg.

In table bottles of 100, bottles of 250 & 1000

DAYALETS® Extra-potent maintenance formulas, ideal for the nutritionally "run-down"

Each Filmtab® represents:

Vitamin A	3 mg. (10,000 units)
Vitamin D	25 mcg. (1000 units)
Thiamine Mononitrate	5 mg.
Riboflavin	5 mg.
Nicotinamide	25 mg.
Pyridoxine Hydrochloride	2 mg.
Cobalamin (Vitamin B_{12})	2 mcg.
Calcium Pantothenate	5 mg.
Ascorbic Acid	100 mg.

In table bottles of 100, bottles of 50, 250 & 1000

DAYALETS-M® Each Filmtab represents all the vitamins of Dayalets plus the following:

Iron (as sulfate)	10 mg.
Copper (as sulfate)	1 mg.
Iodine (as calcium iodate)	0.15 mg.
Cobalt (as sulfate)	0.1 mg.
Manganese (as sulfate)	1 mg.
Magnesium (as oxide)	5 mg.
Zinc (as sulfate)	1.5 mg.
Molybdenum (as sodium molybdate)	0.2 mg.

In table bottles of 100 & 250, bottles of 1000

THERAPEUTIC FORMULAS

OPTILETS® Therapeutic formulas for more severe deficiencies—illness, infection, etc.

Each Filmtab® represents:

Vitamin A	7.5 mg.(25,000 units)
Vitamin D	25 mcg. (1000 units)
Thiamine Hydrochloride	10 mg.
Riboflavin	5 mg.
Nicotinamide	100 mg.
Pyridoxine Hydrochloride	5 mg.
Cobalamin (Vitamin B_{12})	6 mcg.
Calcium Pantothenate	20 mg.
Ascorbic Acid	200 mg.

In table bottles of 30 & 100, bottles of 1000

OPTILETS-M® Each Filmtab represents all the vitamins of Optilets plus the following:

Iron (as sulfate)	10 mg.
Copper (as sulfate)	1 mg.
Iodine (as calcium iodate)	0.15 mg.
Cobalt (as sulfate)	0.1 mg.
Manganese (as sulfate)	1 mg.
Magnesium (as oxide)	5 mg.
Zinc (as sulfate)	1.5 mg.
Molybdenum (as sodium molybdate)	0.2 mg.

In table bottles of 30 & 100, bottles of 1000

SUR-BEX® WITH C Therapeutic B-complex with C, for convalescence, stress, post-surgery.

Each Filmtab® represents:

Thiamine Mononitrate	6 mg.
Riboflavin	6 mg.
Nicotinamide	30 mg.
Pyridoxine Hydrochloride	2.5 mg.
Cobalamin (Vitamin B_{12})	2 mcg.
Calcium Pantothenate	10 mg.
Ascorbic Acid	150 mg.
Desiccated Liver, N.F.	150 mg.
Liver Fraction 2, N.F.	150 mg.
Brewer's Yeast Dried	150 mg.

In table bottles of 60, bottles of 100, 500 & 1000

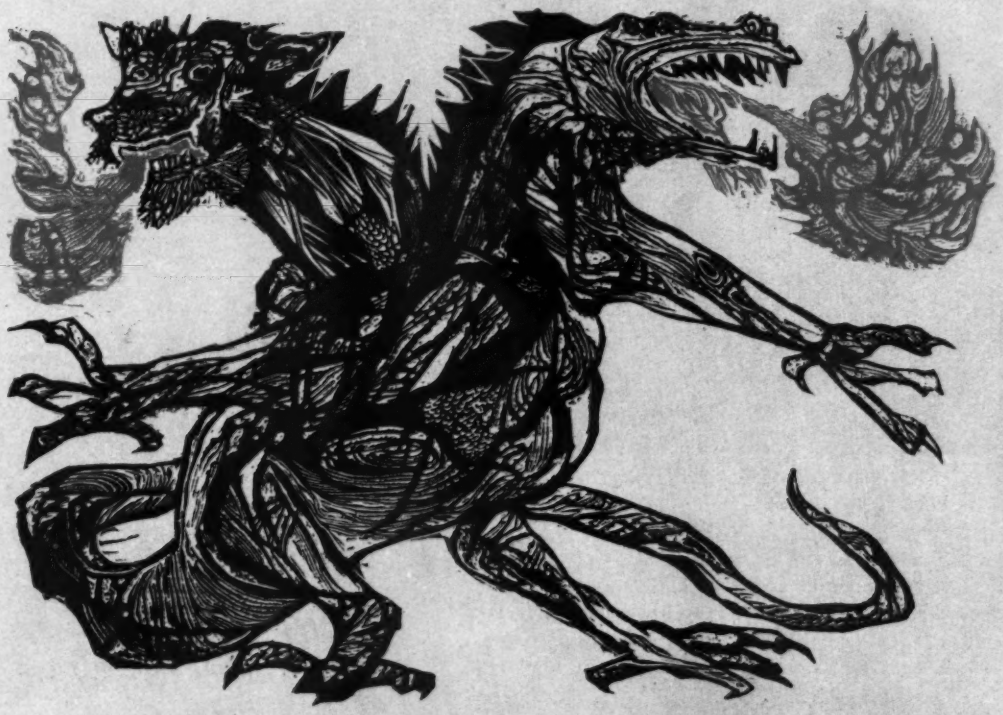
ABBOTT

TABLE BOTTLES AT NO EXTRA COST

VITAMINS BY ABBOTT

®FILMTAB—FILM-SEALED TABLETS, ABBOTT TM—TRADEMARK

When severe pain accompanies skeletal muscle spasm ease both 'pain & spasm'



with Robaxisal®

Robins

ROBAXIN® with Aspirin

A dual-acting skeletal muscle relaxant-analgesic, combining the clinically proven relaxant action of ROBAXIN with the time-tested pain relieving action of aspirin.

Each ROBAXISAL Tablet contains:
ROBAXIN (methocarbamol Robins) 400 mg. Acetylsalicylic acid (5 gr.)..... 325 mg.
U.S. Pat. No. 2770649

Supply: Bottles of 100 and 500 pink-and-white laminated tablets.

Or ROBAXISAL®-PH (ROBAXIN with Phenaphen®) — when anxiety is associated with painful skeletal muscle spasm.

Each ROBAXISAL-PH Tablet contains:
ROBAXIN (methocarbamol Robins) 400 mg. Acetylsalicylic acid ..... 81 mg.
Phenacetin 97 mg. Hyoscyamine sulfate 0.016 mg. Phenobarbital (1/8 gr.) 8.1 mg.

Supply: Bottles of 100 and 500 green-and-white laminated tablets.

A. H. ROBINS CO., INC., Richmond 20, Virginia

Making today's medicines with integrity... seeking tomorrow's with persistence.

CONTROL WHEN IT IS VITALLY NEEDED: THORAZINE® INJECTION

brand of chlorpromazine

'Thorazine' can rapidly control the severely agitated patient, preventing him from harming himself or those around him. Usually, his belligerence, hostility and excitement are replaced by rational, docile behavior, and he becomes receptive to guidance and counselling.

'Thorazine' is so effective in agitation because it provides *an intense tranquilizing effect,* for control of both emotional and physical hyperactivity; and *a transitory soporific effect,* for added initial control of physical hyperactivity.

SK&F

Smith Kline & French Laboratories